



STIC EIC 2100⁽²¹⁾ Search Request Form

111881

Today's Date:

1/12/04

What date would you like to use to limit the search?

Priority Date:

1/17/98

Other:

Name THU HA NGUYEN

AU 2155 Examiner # 77580

Room # CPK2-5A08 Phone 305-7447

Serial # 09/893,364

Format for Search Results (Circle One):

PAPER

DISK

EMAIL

Where have you searched so far?

USP

DWPI

EPO

JPO

ACM

IBM TDB

IEEE

INSPEC

SPI

Other

Is this a "Fast & Focused" Search Request? (Circle One) YES NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at <http://ptoweb/patents/stic/stic-tc2100.htm>.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

- Bandwidth allocation for delivery of stored digital content from at least one server device to at least 1 client device by way of network:
- Prescribing a control variable which represents a target flow rate from the server device to each client device.
- Determining time-varying constraints on the flow rate of content
- Determining cost function of the control ~~variation~~ variable for all client.
- Prescribing bandwidth to all clients based upon the value of the control variables that maximize the cost function.

STIC Searcher Geoffrey St. Leger

Phone

308-7800

Date picked up

1/14/4

Date Completed

1/14/4



File 347:JAPIO Oct 1976-2003/Sep(Updated 040105)
 (c) 2004 JPO & JAPIO
 File 350:Derwent WPIX 1963-2004/UD,UM &UP=200403
 (c) 2004 Thomson Derwent
 File 348:EUROPEAN PATENTS 1978-2004/Jan W02
 (c) 2004 European Patent Office
 File 349:PCT FULLTEXT 1979-2002/UB=20031225,UT=20031218
 (c) 2003 WIPO/Univentio

Set	Items	Description
S1	5954	BANDWIDTH(3N) (ALLOCAT? OR PROVISION??? OR ASSIGN??? OR ALL- OT? OR APPORTION?)
S2	358	AU=ALLEN A?
S3	5j	S1 AND S2

3/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014447059 **Image available**
WPI Acc No: 2002-267762/200231
Related WPI Acc No: 1999-060565
XRPX Acc No: N02-208229

Bandwidth allocation method for distribution of multimedia content
over a network where bandwidth is allocated based on value of
variables that maximize cost function

Patent Assignee: ALLEN A D (ALLE-I); BURST.COM (BURS-N)
Inventor: ALLEN A D
Number of Countries: 020 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020029274	A1	20020307	US 98108777	P	19981117	200231 B
			US 99344688	A	19990625	
			US 2001893364	A	20010626	
WO 200303760	A2	20030109	WO 2002US16590	A	20020625	200305

Priority Applications (No Type Date): US 98108777 P 19981117; US 99344688 A
19990625; US 2001893364 A 20010626

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20020029274	A1	37	G06F-015/173	Provisional application US 98108777

CIP of application US 99344688

WO 200303760 A2 E H04Q-003/00
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU
MC NL PT SE TR

Abstract (Basic): US 20020029274 A1

NOVELTY - A control variable is described which represents a target flow rate from the server to the client, time varying constraints of the flow rate of the content and cost function of the control variables for all clients are determined. Bandwidth is prescribed to all clients based on the value of the control variables that maximize the cost function, and is updated periodically.

DETAILED DESCRIPTION - New clients are admitted if the minimum allowed value of the control variable is less than admission capacity and a client is guaranteed sufficient content flow.

An INDEPENDENT CLAIM is included for a system of allocating bandwidth

USE - Distributing multimedia content to multiple clients simultaneously for playback.

ADVANTAGE - Specially designed for a multimedia environment and to accommodate real world scenarios of today's networks.

DESCRIPTION OF DRAWING(S) - The drawing illustrates the Entity Data Model.

pp; 37 DwgNo 2/17

Title Terms: BANDWIDTH; ALLOCATE; METHOD; DISTRIBUTE; CONTENT; NETWORK;
BANDWIDTH; ALLOCATE; BASED; VALUE; VARIABLE; MAXIMISE; COST; FUNCTION
Derwent Class: T01; W01
International Patent Class (Main): G06F-015/173; H04Q-003/00
File Segment: EPI

3/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

014409270 **Image available**
WPI Acc No: 2002-229973/200229
XRPX Acc No: N02-176899

Bandwidth allocation for delivering multimedia data from server to
clients over a network, involves allocating remaining server bandwidth
to remaining clients after determined total server flow rate

Patent Assignee: BURST.COM INC (BURS-N)

Inventor: **ALLEN A**

Number of Countries: 025 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1180875	A1	20020220	EP 2000402296	A	20000817	200229 B

Priority Applications (No Type Date): EP 2000402296 A 20000817

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 1180875	A1	E 36	H04L-012/56	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): EP 1180875 A1

NOVELTY - The method sorting the list of clients according to determined flow range, and initializing the current flow rate for each client as the determined minimum flow rate and adding the flow rate into total server flow rate. The remaining server **bandwidth** is then **allocated** to the remaining clients.

DETAILED DESCRIPTION - The flow rate range for each client is determined as given by the difference between the determined maximum flow rate and minimum flow rate.

USE - For delivery of multimedia data from server to one or more clients over a network.

ADVANTAGE - Provides service to several clients simultaneously for the delivery of multimedia content which is used and played back at each client. Determines optimal delivery rates to each client and determines whether new clients can be accepted without diminishing quality of service to existing clients. Has content delivery strategy that includes ability to adapt to scheduled as well as unexpected disturbances to minimize unwanted disruptions of services. Performs faster-than-real-time transmissions or burst transmissions in high-bandwidth networks and large client cache or intermediate storage. Allows headroom for myriad of methods to intelligently handle new clients, client interactivity and possible network fluctuations.

DESCRIPTION OF DRAWING(S) - The figure shows the flow of control and data between different stations of content delivery session.

pp; 36 DwgNo 1/13

Title Terms: BANDWIDTH; ALLOCATE; DELIVER; DATA; SERVE; CLIENT; NETWORK;
ALLOCATE; REMAINING; SERVE; BANDWIDTH; REMAINING; CLIENT; AFTER;
DETERMINE; TOTAL; SERVE; FLOW; RATE

Derwent Class: W01

International Patent Class (Main): H04L-012/56

File Segment: EPI

3/5/3 (Item 1 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01393907

Method for connection acceptance control and optimal multimedia content delivery over networks

Verfahren zur Verbindungszugangssteuerung und zur optimalen multimedialen Inhaltslieferung über Netze

Procede de controle d'admission de connexion et de distribution optimale de contenu multimedia dans des reseaux

PATENT ASSIGNEE:

BURST.COM, INC., (2016722), 613 Fourth Street, Suite 201, Santa Rosa, California 95404, (US), (Applicant designated States: all)

INVENTOR:

Allen, Arthur , 1322 Isabelle Avenue, 94040 Mountain View (California), (US)

LEGAL REPRESENTATIVE:

Lang, Johannes et al (86391), Bardehle Pagenberg Dost Altenburg Geissler Isenbruck, 14 boulevard Malesherbes, 75008 Paris, (FR)

PATENT (CC, No, Kind, Date): EP 1180875 A1 020220 (Basic)

APPLICATION (CC, No, Date): EP 2000402296 000817;
DESIGNATED STATES: DE; FR; GB
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: H04L-012/56

ABSTRACT EP 1180875 A1

A method for **bandwidth allocation** for delivery of multimedia data from server to one or more clients over a network is described. The method comprises the steps of: determining the maximum flow rate and minimum flow rate for each client, determining the flow rate range for each client as given by the difference between said maximum flow rate and said minimum flow rate, sorting the list of clients according to said flow rate range, initializing current flow rate for each clients as said minimum flow rate and summing said flow rate into total server flow rate, and **allocating** remaining server **bandwidth** to remaining clients

ABSTRACT WORD COUNT: 105

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020220 A1 Published application with search report

Examination: 020904 A1 Date of request for examination: 20020701

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200208	818
SPEC A	(English)	200208	1
Total word count - document A			819
Total word count - document B			0
Total word count - documents A + B			819

3/5/4 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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01045152 **Image available**

LOCATION AWARE DATA NETWORK

RESEAU DE DONNEES INFORMES DE LA LOCALISATION

Patent Applicant/Assignee:

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ALLEN Anja A, 12806 Dogwood Hills Lane, Fairfax, VA 22033, US, US

(Residence), DE (Nationality), (Designated only for: US)

Legal Representative:

ROHLICEK J Robin (agent), Fish & Richardson P.C., 225 Franklin Street,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200375125 A2 20030912 (WO 0375125)

Application: WO 2003US6169 20030228 (PCT/WO US0306169)

Priority Application: US 2002361419 20020301; US 2002361421 20020301; US
2002361420 20020301; US 2002361380 20020301; US 2002387331 20020610; US
2002387330 20020610

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO
RU SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE SI
SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 30316

English Abstract

A system that associates physical locations with network-linked devices in a network to which such devices are connected. This system employs a variety of techniques for establishing device location. The system configuration can vary and can include any type of data network, including LANs, MANs, Wide Area Networks (WANs), Personal Area Networks (PANs), and Home Networks. The system provides location information for particular devices to the network devices and management, and may be used in any of a variety of ways to improve configuration accuracy, control, and security. The location information may also be used to control or secure a device itself.

French Abstract

L'invention concerne un systeme qui associe des localisations physiques a des dispositifs relies en reseau dans un reseau auquel lesdits dispositifs sont connectes. Ledit systeme utilise une pluralite de techniques pour etabliir une localisation des dispositifs. La configuration du systeme peut varier et peut comprendre n'importe quel reseau de donnees, notamment des RLE, MAN, des reseaux longue portee (RE), des reseaux personnel (PAN) et des reseaux familiaux. Ledit systeme fournit des informations de localisation pour des dispositifs particuliers aux dispositifs de reseaux et a la gestion de reseau et peut etre utilise de differentes facons pour ameliorer l'exactitude, le controle et la securite de la configuration. Lesdites informations de localisation peuvent etre utilisees pour controler ou securiser un dispositif lui-meme.

Legal Status (Type, Date, Text)

Publication 20030912 A2 Without international search report and to be republished upon receipt of that report.

3/5/5 (Item 2 from file: 349)

DIALOG(R) File 349: PCT FULLTEXT

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00973727 **Image available**

METHOD FOR CONNECTION ACCEPTANCE CONTROL AND RAPID DETERMINATION OF OPTIMAL MULTI-MEDIA CONTENT DELIVERY OVER NETWORKS

PROCEDE DE COMMANDE D'ACCEPTATION DE CONNEXION ET DETERMINATION RAPIDE DE DISTRIBUTION OPTIMALE DE CONTENU MULTIMEDIA SUR DES RESEAUX

Patent Applicant/Assignee:

BURST COM, 613 Fourth Street, Suite 201, Santa Rosa, CA 95404, US, US

(Residence), US (Nationality)

Inventor(s):

ALLEN Arthur Douglas, 1322 Isabelle Avenue, Mountain View, CA 94040, US

Legal Representative:

SWISS Gerald F (et al) (agent), BURNS, DOANE, SWECKER & MATHIS, L.L.P.,

P.O. BOX 1404, Alexandria, VA 22313-1404, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200303760 A2-A3 20030109 (WO 0303760)

Application: WO 2002US16590 20020625 (PCT/WO US0216590)
Priority Application: US 2001893364 20010626
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
Main International Patent Class: H04L-012/56
International Patent Class: H04N-007/24; H04N-005/00
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 16271

English Abstract

A method of **bandwidth allocation** for delivery of stored digital content from at least one server device to at least one client device by way of a network is disclosed. The method begins by prescribing a control variable which represents a target flow rate from the server device to each client device. Next, time-varying constraints on the flow rate of the content are determined. A cost function of the control variable for each client is determined. The cost function corresponds to a maximized value of the control variable. Finally, bandwidth is prescribed to each client based upon the value of the control variable maximized by the cost function. In this respect, the method achieves optimal **allocation** of **bandwidth** between the server and the respective clients.

File 347:JAPIO Oct 1976-2003/Sep(Updated 040105)

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File 350:Derwent WPIX 1963-2004/UD,UM &UP=200403

(c) 2004 Thomson Derwent

Set	Items	Description
S1	391696	BANDWIDTH OR BAND()WIDTH OR CAPACITY OR THROUGHPUT
S2	35159	S1(5N) (ALLOCAT? OR PROVID??? OR PROVISION??? OR DESIGNAT? - OR PRESCRIB? OR ASSIGN??? OR ALLOT? OR APPORTION? OR GRANT??? OR GIV??? OR CONFER??? OR SUPPLY??? OR SUPPLIED OR SUPPLIES OR DOLE? ? OR DOLING)
S3	334685	(RATE OR RATES OR SPEED) (5N) (DATA OR INFORMATION OR STREAM- ??? OR CONTENT OR FLOW??? OR SERVICE OR TRANSMIT? OR TRANSMIS- SION OR TRANSFER???? OR TRANSPORT? OR DELIVER? OR COMMUNICAT? OR DISTRIBUT? OR BROADCAST? OR MULTICAST?)
S4	1492485	CHARG??? OR COST? ? OR PRIC??? OR FEE OR FEES OR BILL??? OR PAY??? OR PAYMENT? ?
S5	1691841	CLIENT? ? OR PC? ? OR COMPUTER? ? OR TERMINAL? ? OR WORKST- ATION? ? OR WORK()STATION? ? OR NODE? ? OR SERVER? ?
S6	51	S2 AND S3 AND S4 AND S5
S7	2899	BANDWIDTH(3N) (ALLOCAT? OR PROVID??? OR PROVISION??? OR DES- IGNAT? OR PRESCRIB? OR ASSIGN??? OR ALLOT? OR APPORTION? OR G- RANT??? OR GIV??? OR CONFER??? OR SUPPLY??? OR SUPPLIED OR SU- PPLIES OR DOLE? ? OR DOLING)
S8	122	S4 AND S5 AND S7
S9	107	S8 NOT S6
S10	27	S9 AND IC=G06F
S11	80	S9 NOT S10
S12	33	S11 AND IC=H04L
S13	47	S11 NOT S12

6/5/2 (Item 2 from file: 347)

DIALOG(R)File 347:JAPIO

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05609213 **Image available**

LINE CHANGEOVER CONTROL SYSTEM FOR MULTIPLEX COMMUNICATION EQUIPMENT

PUB. NO.: 09-224013 [JP 9224013 A]

PUBLISHED: August 26, 1997 (19970826)

INVENTOR(s): AZUMA KAZUMASA

SUZUKI KAORU

ASO IKUO

WATANABE SAKAE

APPLICANT(s): HITACHI TELECOM TECHNOL LTD [329626] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 08-030342 [JP 9630342]

FILED: February 19, 1996 (19960219)

INTL CLASS: [6] H04J-003/14; H04J-003/00; H04L-001/22; H04Q-011/04

JAPIO CLASS: 44.2 (COMMUNICATION -- Transmission Systems); 44.3 (COMMUNICATION -- Telegraphy); 44.4 (COMMUNICATION -- Telephone)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a line switchable multiplex communication equipment especially capable of saving a line using **charge** in a public line network by line changeover.

SOLUTION: The multiplex communication equipment 1 with line changeover control for selectively connecting an active line 5 **provided** with a large transmission **capacity** and a standby line 6 **provided** with a limited transmission **capacity** is **provided** with a data **terminal** I/F(interface) 18 connected to a data **terminal** 2, a voice **terminal** I/F 17 connected to a voice **terminal** 3, an active line I/F 13 connected to the line 5, a standby line I/F 14 connected to the line 6, a multiplex control part 16 for multiplexing data and voice information, a line changeover part 15 for switching the lines, a control part 11 for generally controlling them and a memory 12 for storing multiplex information in the active line and the standby line and line changeover information. Then, in the standby line 6, only the irreducibly minimum **information** is multiplexed, a using line **speed** is suppressed low and the line using **charge** is saved.

6/5/5 (Item 5 from file: 347)

DIALOG(R)File 347:JAPIO

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04241896 **Image available**

RESOURCE UNIFORM DISTRIBUTION SYSTEM

PUB. NO.: 05-233596 [JP 5233596 A]

PUBLISHED: September 10, 1993 (19930910)

INVENTOR(s): KUWABARA KAZUHIRO

APPLICANT(s): NIPPON TELEGR & TELEPH CORP <NTT> [000422] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 04-030240 [JP 9230240]

FILED: February 18, 1992 (19920218)

INTL CLASS: [5] G06F-015/20

JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- **Computer** Applications)

JOURNAL: Section: P, Section No. 1663, Vol. 17, No. 692, Pg. 142, December 17, 1993 (19931217)

ABSTRACT

PURPOSE: To provide the resource uniform **distribution** system which unifomizes use **rates** of respective resources as much as possible without concentrating information of the whole of the system.

CONSTITUTION: With respect to the resource distribution system in the multi- agent system where many autonomously operated **computers** called

agents are connected by a network, this resource uniform distribution system is characterized by determining a resource management agent for each of plural kinds of resource and determining the target of an actually **assigned capacity** (use ratio) out of the overall capacity of the resource, which is managed by the resource management agent itself, by the resource management agent and setting and adjusting the **price** of the resource in accordance with the deviation of the actual use ratio from the target use rate and requesting assignment of each resource from agents, which will use resources, based on the **price**.

6/5/23 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014593701 **Image available**
WPI Acc No: 2002-414405/200244
XRPX Acc No: N02-325829

Integrated billing system for Internet, telephony service, receives data such as service usage data, changed subscriber identity data and preference data from multiplexers connected to caching server

Patent Assignee: GERSZBERG I (GERS-I); MARTIN J S (MART-I); OPLINGER T (OPLI-I); WALKER H S (WALK-I)

Inventor: GERSZBERG I; MARTIN J S; OPLINGER T; WALKER H S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020033416	A1	20020321	US 971359	A	19971231	200244 B
			US 98224282	A	19981231	

Priority Applications (No Type Date): US 98224282 A 19981231; US 971359 A 19971231

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20020033416	A1	44	G06K-005/00	CIP of application US 971359

Abstract (Basic): US 20020033416 A1

NOVELTY - The controller generates the electronic **bills** for the particular subscriber in response to reception of the service usage data, changed subscriber identity data and preference data from the multiplexers connected to a caching **server**.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for method of providing consolidated electronic **bills** for multiplex services.

USE - For generating electronic **bills** for services, such as cable television (CATV) Internet, telephony and enhanced services such as multimedia services, video conference services, directory services, etc.

ADVANTAGE - Reduces the overall system **cost** by **providing** competitive service alternatives. Increases the **bandwidth** and also improves the capabilities of the customer premises equipment. The subscribers can **pay** their **bills** through Internet, telephone, wireless telephone or cable television lines using simple technique. The generated electronic **bill** offers discounts, premiums and rewards for the subscribers by comparing the **payment** form with the subscriber profiles. The **billing** and the **payment** information are highly secured and stored in encrypted form. The **speed** of the **delivery** is achieved by delivering the **bills** to recent address data. No power is required in order to power the ISD/IRG to each individual houses. Prevents injury to small children or maintenance worker who is unplugging and disconnecting the cable system where power is provided to home through the tap.

DESCRIPTION OF DRAWING(S) - The figure shows a hybrid fiber twisted pair local loop architecture.

pp; 44 DwgNo 1A/17

Title Terms: INTEGRATE; **BILL**; SYSTEM; TELEPHONE; SERVICE; RECEIVE; DATA; SERVICE; DATA; CHANGE; SUBSCRIBER; IDENTIFY; DATA; PREFER; DATA; MULTIPLEX; CONNECT; SERVE

Derwent Class: T01; W01

International Patent Class (Main): G06K-005/00
File Segment: EPI

6/5/24 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

014593605 **Image available**
WPI Acc No: 2002-414309/200244
Related WPI Acc No: 2000-292939; 2002-009713
XRPX Acc No: N02-325733

**Data allocation management method for TDMA network, involves
synchronizing reservation schedule across all nodes by periodic network
clock broadcast**

Patent Assignee: BARTON J M (BART-I)
Inventor: BARTON J M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020031144	A1	20020314	US 9757155	P	19970828	200244 B
			US 98135753	A	19980818	
			US 2001953472	A	20010914	

Priority Applications (No Type Date): US 9757155 P 19970828; US 98135753 A
19980818; US 2001953472 A 20010914

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20020031144	A1	17	H04J-003/16	Provisional application US 9757155

CIP of application US 98135753
CIP of patent US 6310886

Abstract (Basic): US 20020031144 A1

NOVELTY - A distributed **bandwidth** reservation schedule is **provided** for avoiding network contention across interconnected networks which contain **nodes** (103-107) with different connection speeds. A reservation schedule maintenance unit is provided to resident on multiple **node** for receiving and maintaining a copy of reservation schedule which is synchronized across all **nodes** by a periodic network clock broadcast.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for data allocation management apparatus.

USE - For managing data allocation in communication networks such as time division multiple access (TDMA) network, asynchronous **transfer** mode (ATM) network, **rate**-adaptive **broadcast** packet network, radio or phone-line based network and ethernet networks.

ADVANTAGE - Reduces the required complexity and **cost** of each network **node** over existing techniques and achieves efficient use of network while maintaining stable **data delivery rates**. Allows the **nodes** to share network without disturbing ongoing streaming media transmissions.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of **rate**-adaptive **broadcast** packet network.

Nodes (103-107)

pp; 17 DwgNo 1/7

Title Terms: DATA; ALLOCATE; MANAGEMENT; METHOD; TDMA; NETWORK;
SYNCHRONISATION; RESERVE; SCHEDULE; **NODE** ; PERIODIC; NETWORK; CLOCK;
BROADCAST

Derwent Class: W01; W02
International Patent Class (Main): H04J-003/16
File Segment: EPI

6/5/30 (Item 21 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014253722 **Image available**

WPI Acc No: 2002-074422/200210

XRPX Acc No: N02-054857

Network arrangement for data communication, transmits decoded data having lower order rate than encoded data through twisted pair wire

Patent Assignee: COMPAQ COMPUTER CORP (COPQ)

Inventor: LIU C R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6320900	B1	20011120	US 98183613	A	19981030	200210 B

Priority Applications (No Type Date): US 98183613 A 19981030

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6320900	B1	9	H04B-001/38	

Abstract (Basic): US 6320900 B1

NOVELTY - A decoder/encoder unit (204) decodes the encoded data output by a **computer** device. The decoded data is transmitted over twisted pair wire (T+,T-). The transmitted decoded data are regenerated as encoded data and provided to another **computer** device. The encoded **data** has higher **data rate** than the decoded **data** . The twisted pair wire has **data rate** that is less than the **data rate** of encoded **data** .

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Information transferring method;
- (b) Converter;
- (c) Interface arrangement

USE - For interconnecting **computer** resources within home environment through communication resources having reduced bandwidth for data communication.

ADVANTAGE - Allows reduced bandwidth communication media to be used as the communication resource between computing resources that are configured to communicate through a higher **bandwidth** media using encoded data. **Provides** a **cost** effective networking capability that is essentially transparent to the user/computing resource and simple to implement within existing structures.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of converter used with networked computing devices on exemplary home environment.

Decoder/encoder unit (204)

Twisted pair wire (T+,T-)

pp; 9 DwgNo 2/3

Title Terms: NETWORK; ARRANGE; DATA; COMMUNICATE; TRANSMIT; DECODE; DATA; LOWER; ORDER; RATE; ENCODE; DATA; THROUGH; TWIST; PAIR; WIRE

Derwent Class: W01

International Patent Class (Main): H04B-001/38

International Patent Class (Additional): H03M-007/12

File Segment: EPI

6/5/35 (Item 26 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013605690 **Image available**

WPI Acc No: 2001-089898/200110

XRPX Acc No: N01-068052

Information communication apparatus for internet system, adjusts transmission rate of information package in preset time interval between user and network ports with respect to bandwidth allocated to each user port

Patent Assignee: BBN CORP (BBNB-N)

Inventor: JOFFE R L; OBENHUBER T

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6144638	A	20001107	US 9619089	A	19960514	200110 B
			US 97853862	A	19970509	

Priority Applications (No Type Date): US 9619089 P 19960514; US 97853862 A 19970509

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6144638	A	19	H04L-012/56	Provisional application US 9619089

Abstract (Basic): US 6144638 A

NOVELTY - A controller regulates the transmission of the information packets between a user port and a network port in a preset time interval based on the **bandwidth allocated** to the user port. Firewalls (470-473) filter the network traffic to the user port corresponding to the security features of the user port.

DETAILED DESCRIPTION - The **bandwidth** and the security features **allocated** to each user port is contained in a configuration information stored in a non-volatile **computer** memory. A switch establishes a communication path between a user port and a network port. An INDEPENDENT CLAIM is also included for a data distribution method in internet system.

USE - In internet system.

ADVANTAGE - Enables to specify bandwidth for each user port. Enables to monitor software and control functions. Provides a dedicated service at a lower operational **cost**. Reduces entry **cost** for internet connection. **Provides** high **capacity** connection at a low **cost**. **Provides** completely integrated internet hook-up service.

DESCRIPTION OF DRAWING(S) - The figure shows the functional block diagram of communication apparatus.

Firewalls (470-473)

pp; 19 DwgNo 4/8

Title Terms: INFORMATION; COMMUNICATE; APPARATUS; SYSTEM; ADJUST; TRANSMISSION; RATE; INFORMATION; PACKAGE; PRESET; TIME; INTERVAL; USER; NETWORK; PORT; RESPECT; BANDWIDTH; ALLOCATE; USER; PORT

Derwent Class: T01; W01

International Patent Class (Main): H04L-012/56

File Segment: EPI

6/5/38 (Item 29 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013023971 **Image available**

WPI Acc No: 2000-195822/200017

XRPX Acc No: N00-144862

Service level selection enhancement method in mobile network, involves using interworking function for signaling to user terminal, when change in level selection is useful

Patent Assignee: TELEFONAKTIEBOLAGET ERICSSON L M (TELF)

Inventor: COLBAN E A; FJORTOFT J; COLBAN E; FJOERTOFT J

Number of Countries: 088 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200008881	A1	20000217	WO 99SE1343	A	19990806	200017 B
NO 9803638	A	20000208	NO 983638	A	19980807	200019
AU 9956629	A	20000228	AU 9956629	A	19990806	200030
TW 474107	A	20020121	TW 99114621	A	19990826	200308
US 6542521	B1	20030401	US 99369175	A	19990805	200324

Priority Applications (No Type Date): NO 983638 A 19980807

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 200008881	A1 E	19	H04Q-007/22	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN

CR CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI
SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

NO 9803638 A H04M-000/00
AU 9956629 A H04Q-007/22 Based on patent WO 200008881
TW 474107 A H04Q-007/22
US 6542521 B1 H04J-003/12

Abstract (Basic): WO 200008881 A1

NOVELTY - Interworking function (IWF) is established between user **terminal** (MS) and the network, and a high **speed** circuit **data** (HSCD) are specified, based on the demand. IWF is used for signaling to the user **terminal**, when a change in level selection is useful.

DETAILED DESCRIPTION - The signaling to the user **terminal** is affected by signaling a bit in the radio link protocol (RLP) information or supervisory frame header to a certain logic level, by setting the last bit to 1' for signaling upgrading. The IWF transmits RLP frames towards the user **terminal** on addition channel, until a level change or upgrade is recommended. The IWF signaling is repeated until level change especially upgrading takes effect in subsequent information (IF) and supervisory frames (SF). The IWF controls the status of the buffers between the protocols on the user **terminal** network (GSM network) and protocols on a fixed network such as PSTN, ISTN or IP network, for evaluating any initialization of upgrading/downgrading.

USE - For enhancing **service** level selection for high **speed** circuit switched **data** (HSCSD) calls in mobile network. And also in network communication systems having busy traffic, connected with internet and intranet.

ADVANTAGE - Enables mobile user to **allocate** required **bandwidth** more flexibly and dynamically, thereby reducing **cost** involved. Enables upgrading and downgrading of number of traffic channels used, at any time during call, more selectively, depending on the required transmission capacity.

DESCRIPTION OF DRAWING(S) - The figure shows schematic drawing illustrating the general layout of communication network system, for which the service level selection enhancement method is adopted.

pp; 19 DwgNo 1/3

Title Terms: SERVICE; LEVEL; SELECT; ENHANCE; METHOD; MOBILE; NETWORK;
FUNCTION; USER; **TERMINAL**; CHANGE; LEVEL; SELECT; USEFUL

Derwent Class: W01; W02

International Patent Class (Main): H04J-003/12; H04M-000/00; H04Q-007/22

International Patent Class (Additional): H04J-003/22; H04Q-011/04

File Segment: EPI

6/5/43 (Item 34 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010273027 **Image available**

WPI Acc No: 1995-174282/199523

XRPX Acc No: N95-136793

Packet communication **system** for high **speed** network - incorporates **connection part** to connect first and second subscriber network to higher order network according to load situation

Patent Assignee: TOSHIBA KK (TOKE)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 7095205	A	19950407	JP 93234817	A	19930921	199523 B

Priority Applications (No Type Date): JP 93234817 A 19930921

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 7095205	A	13	H04L-012/28	

Abstract (Basic): JP 7095205 A

The system consists of subscriber **terminals** (5a-5g). The

subscriber **terminals** are connected to a set of subscriber networks (1a-1c). The subscriber networks are interconnected by a set of higher order networks (2a-2c). The subscriber networks which accommodate the communicating subscriber **terminals** are connected by a higher order network. The higher order network is selected according to the load situation of each higher order network. A set of network management **nodes** (3a-3c) are provided to connect the selected subscriber networks and the higher order network.

ADVANTAGE - Simplifies introduction of high speed subscriber network, reduces **cost** , **provides** flexible system in which channel **capacity** is increased in future. Makes effective use of transmission band.

Dwg.1/11

Title Terms: PACKET; COMMUNICATE; SYSTEM; HIGH; SPEED; NETWORK; INCORPORATE ; CONNECT; PART; CONNECT; FIRST; SECOND; SUBSCRIBER; NETWORK; HIGH; ORDER ; NETWORK; ACCORD; LOAD; SITUATE

Index Terms/Additional Words: PACKET; COMMUNICATE; SYSTEM

Derwent Class: W01

International Patent Class (Main): H04L-012/28

International Patent Class (Additional): H04L-012/56

File Segment: EPI

6/5/46 (Item 37 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009474446 **Image available**

WPI Acc No: 1993-167987/199320

XRPX Acc No: N93-128582

Information transmission system for broadcasting digital information - has computer memories coupled to schedule circuit and transmission circuit for stream of data packets containing distinct indices for reference

Patent Assignee: FINISAR CORP (FINI-N)

Inventor: LEVINSON F H

Number of Countries: 019 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9309631	A1	19930513	WO 92US9087	A	19921027	199320	B
AU 9229090	A	19930607	AU 9229090	A	19921027	199338	
EP 610367	A1	19940817	EP 92922971	A	19921027	199432	
			WO 92US9087	A	19921027		
AU 654885	B	19941124	AU 9229090	A	19921027	199503	
US 5404505	A	19950404	US 91786453	A	19911101	199519	
EP 610367	A4	19950419	EP 92922971	A		199613	
CA 2121592	C	20010417	CA 2121592	A	19921027	200128	
			WO 92US9087	A	19921027		

Priority Applications (No Type Date): US 91786453 A 19911101

Cited Patents: US 4716410; US 4897782; US 5172413; 1.Jnl.Ref; US 4868866;

WO 9001243

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9309631 A1 E 51 H04N-001/00

Designated States (National): AU CA JP

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL SE

AU 9229090 A H04N-001/00 Based on patent WO 9309631

EP 610367 A1 E 2 H04N-001/00 Based on patent WO 9309631

Designated States (Regional): DE ES FR GB IT NL

AU 654885 B H04N-001/44 Previous Publ. patent AU 9229090

Based on patent WO 9309631

US 5404505 A 25 G06F-015/40

EP 610367 A4 H04N-001/00

CA 2121592 C E H04N-001/00 Based on patent WO 9309631

Abstract (Basic): WO 9309631 A

The system (100) has a set of one or more **computer** memories on which is stored an information database (112) with an editing part coupled to the memories for generating a hierarchically arranged set of indices for referencing data. Distinct indices are included for referencing distinct portions and for embedding the indices in the information database. Transmission of selected portions of the database is scheduled at one or more times.

A transmission circuit is coupled to the schedule part and the memories for transmitting a stream of data packets containing selected portions in accordance with scheduled transmission times. The selected portions are prioritised into sets of tiers.

ADVANTAGE - Provides large number of subscribers access to large amounts of information.

ie

Dwg.1/11

Title Terms: INFORMATION; TRANSMISSION; SYSTEM; BROADCAST; DIGITAL; INFORMATION; **COMPUTER** ; MEMORY; COUPLE; SCHEDULE; CIRCUIT; TRANSMISSION; CIRCUIT; STREAM; DATA; PACKET; CONTAIN; DISTINCT; INDEX; REFERENCE

Derwent Class: W02

International Patent Class (Main): G06F-015/40; H04N-001/00; H04N-001/44

International Patent Class (Additional): G11C-007/00; H04B-007/185;

H04H-001/00; H04H-001/02; H04L-029/08; H04N-007/16; H04N-007/20

File Segment: EPI

6/5/49 (Item 40 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008325897 **Image available**

WPI Acc No: 1990-212898/199028

XRPX Acc No: N90-165374

Setting up route for trunk connection between I-O terminals -
classifying routes according to line capacity, and making trunk
connection while selecting cheapest route

Patent Assignee: OCHIAI T (OCHI-I); TOSHIBA KK (TOKE)

Inventor: OCHIAI T

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2142259	A	19900531	JP 88296830	A	19881124	199028 B
CA 2003871	A	19900524	CA 2003817	A	19891124	199031
US 5163042	A	19921110	US 89439674	A	19891122	199248
CA 2003871	C	19961022	CA 2003871	A	19891124	199702

Priority Applications (No Type Date): JP 88296830 A 19881124

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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US 5163042	A		25	H04J-003/22	
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CA 2003871	C			H04Q-003/00	
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Title Terms: SET; UP; ROUTE; TRUNK; CONNECT; I-O; **TERMINAL** ; CLASSIFY;
ROUTE; ACCORD; LINE; CAPACITY; TRUNK; CONNECT; SELECT; ROUTE; NOABSTRACT

Index Terms/Additional Words: COST; LCR

Derwent Class: W01

International Patent Class (Main): H04J-003/22; H04Q-003/00

International Patent Class (Additional): H04L-012/00; H04M-003/36

File Segment: EPI

6/5/50 (Item 41 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008299066 **Image available**

WPI Acc No: 1990-186067/199025

XRPX Acc No: N90-144734

Communication network exchange route decision system - divides residual

capacities of relay lines into set classes and selects route for min.

cost tandem connection

Patent Assignee: OCHIAI T (OCHI-I); TOSHIBA KK (TOKE)

Inventor: OCHIAI T

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2001620	A	19900427	CA 2001620	A	19891026	199025 B
JP 2117236	A	19900501	JP 88271603	A	19881027	199025
US 5038340	A	19910806	US 89426380	A	19891025	199134
CA 2001620	C	19961001	CA 2001620	A	19891026	199650

Priority Applications (No Type Date): JP 88271603 A 19881027

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

CA 2001620 C H04Q-003/54

Abstract (Basic): CA 2001620 A

The exchange route decision system realises tandem connection between outgoing and incoming communication **terminals** of various sorts and multiple **rates** requiring immediate **data communication** through a number of exchanges. It takes the residual capacities of relay lines between the outgoing and incoming **terminals** into consideration.

The residual capacities of the relay lines between the outgoing and incoming **terminals** are divided into a number of classes based on set line **capacity** units. Data on routes **providing** min. **costs** in association with the classes are controlled, and a route corresp. to the class satisfying the request line capacity of the outgoing **terminal** is selected to realise the tandem connection between the outgoing and incoming **terminals**.

ADVANTAGE - Reliably selects min. **cost** route with min. chance of call loss. (30pp Dwg.No.4/13)

Title Terms: COMMUNICATE; NETWORK; EXCHANGE; ROUTE; DECIDE; SYSTEM; DIVIDE; RESIDUE; CAPACITY; RELAY; LINE; SET; CLASS; SELECT; ROUTE; MINIMUM; **COST**; TANDEM; CONNECT

Derwent Class: W01

International Patent Class (Main): H04Q-003/54

International Patent Class (Additional): H04J-003/22; H04L-011/00

File Segment: EPI

6/5/51 (Item 42 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008246423 **Image available**

WPI Acc No: 1990-133424/199018

XRFX Acc No: N90-103451

High speed voice and data packet switching node design - quickly resolves contention between adaptors for access to network and by-passes intermediate cells not having request for access

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)

Inventor: CIDON I; GOPAL I S

Number of Countries: 005 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 365864	A	19900502	EP 89118018	A	19890928	199018 B
JP 2131048	A	19900518				199026
US 4991172	A	19910205	US 88264402	A	19881028	199108
US 5051985	A	19910924	US 90575258	A	19900830	199141
EP 365864	A3	19930505	EP 89118018	A	19890928	199402
EP 365864	B1	19960612	EP 89118018	A	19890928	199628
DE 68926650	E	19960718	DE 626650	A	19890928	199634
			EP 89118018	A	19890928	

Priority Applications (No Type Date): US 88264402 A 19881028; US 90575258 A 19900830

Cited Patents: NoSR.Pub; 1.Jnl.Ref; EP 254472; US 4550402; WO 8807299

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
EP 365864 B1 E 29 H04L-012/42
Designated States (Regional): DE FR GB
DE 68926650 E H04L-012/42 Based on patent EP 365864

Abstract (Basic): EP 365864 A

The multinode (15) packet switching system transmits a packet of data from an end point user (16) over a communication bus (12) between the FIFO memories of source and destination adapters. Firstly it reads the packet from the FIFO memory onto a bus with one word being transmitted each clock cycle, all of the words of the packet being transmitted in consecutive cycles and the link address being at a known position in the packet.

It identifies the boundaries of the packet, and compares in one clock cycle, the link address in the packet with each link address in all adapters of the bus. All the words of the packet are written to the FIFO memory of all adapters whose link address matches that of the packet.

USE/ADVANTAGE - Provides **cost** effective means of **transmitting information** over high **speed** (1 Gbit/sec) **communications** network.

(28pp Dwg.No.1/17)

Title Terms: HIGH; SPEED; VOICE; DATA; PACKET; SWITCH; **NODE** ; DESIGN;
QUICK; RESOLUTION; CONTENTION; ADAPT; ACCESS; NETWORK; BY-PASS;
INTERMEDIATE; CELL; REQUEST; ACCESS

Derwent Class: W01; W02

International Patent Class (Main): H04L-012/42

International Patent Class (Additional): H04J-003/02; H04L-011/00;
H04L-012/56; H04L-012/64

File Segment: EPI

10/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015615392 **Image available**
WPI Acc No: 2003-677549/200364
Related WPI Acc No: 2000-582726
XRPX Acc No: N03-540849

Telecommunication network designing method involves solving linear program subject to cost structure specified by overhead and service charges per unit length per unit bandwidth , to obtain provisional solution

Patent Assignee: LUCENT TECHNOLOGIES INC (LUCE)
Inventor: ANDREWS D M; ZHANG Y L
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6363334	B1	20020326	US 98107210	P	19981105	200364 B
			US 99255945	A	19990223	

Priority Applications (No Type Date): US 98107210 P 19981105; US 99255945 A 19990223

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6363334	B1	16	G06F-017/50	Provisional application US 98107210

Abstract (Basic): US 6363334 B1

NOVELTY - A linear program subjected to a **cost** structure specified by overhead and service **charges** per unit length per unit bandwidth for each trunk in a link of network, is solved to obtain a provisional solution. The provisional solution is comprised of investment and usage variables such that the investment variable specifies a level of investment in trunk and usage variable specifies a fraction of the demand from end **node** of network.

USE - For designing telecommunication network using digital computing device such as digital **computer** and digital processor.

ADVANTAGE - Designs the telecommunication network for carrying communication traffic between the end **node** and core **node** in an easy and efficient manner.

DESCRIPTION OF DRAWING(S) - The figure shows the flowchart illustrating the telecommunication network designing process.
pp; 16 DwgNo 6/12

Title Terms: TELECOMMUNICATION; NETWORK; DESIGN; METHOD; SOLVING; LINEAR; PROGRAM; SUBJECT; **COST** ; STRUCTURE; SPECIFIED; OVERHEAD; SERVICE; **CHARGE** ; PER; UNIT; LENGTH; PER; UNIT; BANDWIDTH; OBTAIN; PROVISIONAL; SOLUTION

Derwent Class: T01; W01

International Patent Class (Main): G06F-017/50

International Patent Class (Additional): G06F-007/60

File Segment: EPI

10/5/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015029150 **Image available**
WPI Acc No: 2003-089667/200308
XRPX Acc No: N03-070699

Resource modification method for communication system involves computing indicator of access pattern that is formed from access data collected from communication link, using cost parameter

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: PLOUFFE W E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6466979	B1	20021015	US 98192208	A	19981109	200308 B

Priority Applications (No Type Date): US 98192208 A 19981109

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6466979	B1		15	G06F-013/00	

X

Abstract (Basic): US 6466979 B1

NOVELTY - An indicator of an access pattern that is formed from access data collected from a communication link, is computed using a **cost** parameter. The level of resources dedicated to the communication link, is adjusted based on whether the current access data is part of the current access pattern.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) Apparatus for modifying resource level of communication link; and

(2) **Computer** readable medium storing program for modifying resource level of communication link.

USE - For modifying level of resources such as **bandwidth allocated** to communication links in a communication system.

ADVANTAGE - The level of resources dedicated to the communication link, is adjusted appropriately, based on actual usage pattern of the communication link.

DESCRIPTION OF DRAWING(S) - The figure shows the flowchart of resource level modification method.

pp; 15 DwgNo 1/4

Title Terms: RESOURCE; MODIFIED; METHOD; COMMUNICATE; SYSTEM; COMPUTATION; INDICATE; ACCESS; PATTERN; FORMING; ACCESS; DATA; COLLECT; COMMUNICATE; LINK; **COST** ; PARAMETER

Derwent Class: T01

International Patent Class (Main): G06F-013/00

File Segment: EPI

10/5/17 (Item 17 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013913098 **Image available**

WPI Acc No: 2001-397311/200142

Related WPI Acc No: 2000-283371

XRPX Acc No: N01-292788

Dynamic bandwidth negotiation scheme for wireless computer networks, involves allocating bandwidth in spread spectrum communication channel of computer network, based on bandwidth requests of devices within network

Patent Assignee: SHAREWAVE INC (SHAR-N); EKAMBARAM N (EKAM-I); GUBBI R R (GUBB-I); NGUYEN B (NGUY-I)

Inventor: EKAMBARAM N; GUBBI R R; NGUYEN B

Number of Countries: 094 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200106710	A1	20010125	WO 2000US19985	A	20000720	200142 B
AU 200063649	A	20010205	AU 200063649	A	20000720	200142
EP 1195026	A1	20020410	EP 2000950559	A	20000720	200232
			WO 2000US19985	A	20000720	
US 20020133589	A1	20020919	US 98151579	A	19980911	200264
			US 99357462	A	19990720	
KR 2002029427	A	20020418	KR 2002700802	A	20020119	200269
CN 1361962	A	20020731	CN 2000810607	A	20000720	200279
JP 2003505930	W	20030212	WO 2000US19985	A	20000720	200321
			JP 2001511037	A	20000720	

Priority Applications (No Type Date): US 99357462 A 19990720; US 98151579 A 19980911

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200106710	A1	E	19	H04L-012/28	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH
CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE
KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO
RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200063649 A H04L-012/28 Based on patent WO 200106710

EP 1195026 A1 E H04L-012/28 Based on patent WO 200106710

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI

US 20020133589 A1 G06F-015/173 CIP of application US 98151579

KR 2002029427 A H04L-012/28

CN 1361962 A H04L-012/28

JP 2003505930 W 26 H04L-012/28 Based on patent WO 200106710

Abstract (Basic): WO 200106710 A1

NOVELTY - The dynamic bandwidth negotiation scheme involves
dynamically **allocating bandwidth** within a spread spectrum
communication channel of **computer** network, based on bandwidth
requests of devices within the **computer** network.

DETAILED DESCRIPTION - The method involves dynamically **allocating
bandwidth** according to priority of requests of devices within the
computer network. The priorities of the requests are arranged such
that bandwidth requests associated with isochronous transmission within
the network are accorded highest priority. A table of **bandwidth
allocations** is maintained by **server** of **computer** network, so as to
account for a bandwidth utilization within the network. The table is
dynamically updated according to bandwidth requests by the devices and
allocations made in accordance with the requests.

USE - For dynamically **allocating bandwidth** use between **server**
and other associated network **clients** within spread spectrum
communication channel of wireless **computer** network and other network
environments.

ADVANTAGE - Reduces difficulties and **cost** associated with wire
communication links, by incorporating the table of **bandwidth
allocations**, which is dynamically updated according to bandwidth
requests.

DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram
illustrating process for accommodating bandwidth requests.

pp; 19 DwgNo 4/4

Title Terms: DYNAMIC; BANDWIDTH; NEGOTIATE; SCHEME; WIRELESS; **COMPUTER** ;
NETWORK; ALLOCATE; BANDWIDTH; SPREAD; SPECTRUM; COMMUNICATE; CHANNEL;
COMPUTER ; NETWORK; BASED; BANDWIDTH; REQUEST; DEVICE; NETWORK

Derwent Class: T01; W01; W02

International Patent Class (Main): G06F-015/173 ; H04L-012/28

File Segment: EPI

10/5/19 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013110782 **Image available**

WPI Acc No: 2000-282653/200024

XRPX Acc No: N00-212752

Alternative network accessing method in telecommunications network

Patent Assignee: AT & T CORP (AMTT)

Inventor: GERSZBERG I; HUANG K X; KWABI C K; MARTIN J S; MILLER R R;

RUSSELL J E

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6044403	A	20000328	US 971354	A	19971231	200024 B

Priority Applications (No Type Date): US 971354 A 19971231

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6044403	A	36	G06F-013/00	

Abstract (Basic): US 6044403 A

NOVELTY - A database is searched to verify whether the called party or calling party requesting for a service are registered subscriber. A facilities controller performs routing to the network and configures the user service directors to permit user accessing when at least one service e.g. **billing** information retrieval is authorized, and the controller obtains the requisite facilities.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the new **server** platform.

USE - For telecommunications network that provides services e.g. video phone, analog and digital voice traffic, facsimile, voice mail and Internet traffic. Also for providing automated home services relating to meter reading, security and energy management.

ADVANTAGE - Provides competitive service alternatives and allows inter exchange companies to differentiate the offered services by **providing** higher **bandwidth**, improving capabilities of the customer premises, equipment, and lowering overall system **cost**. Has improved new architecture using video phone and/or other devices that provides new services to end user and offer simultaneous services via identical twisted pair.

DESCRIPTION OF DRAWING(S) - The figure shows the explanatory drawing of the hybrid fiber twisted pair local loop architecture.

pp; 36 DwgNo 1/7

Title Terms: ALTERNATIVE; NETWORK; ACCESS; METHOD; TELECOMMUNICATION; NETWORK

Derwent Class: T01; W01

International Patent Class (Main): G06F-013/00

File Segment: EPI

10/5/23 (Item 23 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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11258299 **Image available**

WPI Acc No: 1997-236202/199721

XRPX Acc No: N97-195269

Optimisation method for developing video programming schedule - involving subscriber registering programming request and optimiser combining all requests to create multi-cast where possible

Patent Assignee: AT & T CORP (AMTT); AT & T (AMTT)

Inventor: STORY G A

Number of Countries: 020 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9714251	A1	19970417	WO 96US16274	A	19961011	199721 B
US 5673430	A	19970930	US 95542482	A	19951013	199745
EP 855118	A1	19980729	EP 96936355	A	19961011	199834
			WO 96US16274	A	19961011	
JP 2000500620	W	20000118	WO 96US16274	A	19961011	200014
			JP 97515215	A	19961011	
CA 2233576	C	20010904	CA 2233576	A	19961011	200155
			WO 96US16274	A	19961011	
EP 855118	B1	20010912	EP 96936355	A	19961011	200155
			WO 96US16274	A	19961011	
DE 69615211	E	20011018	DE 615211	A	19961011	200169
			EP 96936355	A	19961011	
			WO 96US16274	A	19961011	

Priority Applications (No Type Date): US 95542482 A 19951013

Cited Patents: EP 625856; US 5410344; WO 9617467

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9714251 A1 E 32 H04N-007/173

Designated States (National): CA JP

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC

NL PT SE

US 5673430 A 11 H04N-007/173
EP 855118 A1 E H04N-007/173 Based on patent WO 9714251
Designated States (Regional): DE GB
JP 2000500620 W 24 H04N-007/173 Based on patent WO 9714251
CA 2233576 C E H04N-007/173 Based on patent WO 9714251
EP 855118 B1 E H04N-007/173 Based on patent WO 9714251
Designated States (Regional): DE GB
DE 69615211 E H04N-007/173 Based on patent EP 855118
Based on patent WO 9714251

Abstract (Basic): WO 9714251 A

The interactive video system allows the users to register requests for specific video programming for delivery, via a cable television system. The user has an electronic box linked to the television (22), and to the cable headend (18), and to the telephone system (14,16). The user registers the preferred video programming, via the telephone system, to a control **computer** (20). This **computer** collects all of the requests and provides an optimised programme schedule.

The optimiser combines the requests where possible, including adjusting the timing or content, if possible. Otherwise pointcast is used, if resources are available, and the user can **pay** an extra **charge**.

ADVANTAGE - **Provides** method of reducing **bandwidth** required while **providing** programme scheduling capability.

Dwg.1/5

Title Terms: OPTIMUM; METHOD; DEVELOP; VIDEO; PROGRAM; SCHEDULE; SUBSCRIBER
; REGISTER; PROGRAM; REQUEST; OPTIMUM; COMBINATION; REQUEST; MULTI; CAST;
POSSIBILITY

Derwent Class: W02

International Patent Class (Main): H04N-007/173

International Patent Class (Additional): **G06F-013/00** ; H04H-001/00;
H04L-012/18

File Segment: EPI

12/5/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015377368 **Image available**
WPI Acc No: 2003-438306/200341
Related WPI Acc No: 1999-373541
XRPX Acc No: N03-349627

System architecture for emergency services, has network server platform for generating enhanced services to user and for distinguishing services provided by interexchange companies

Patent Assignee: AT & T CORP (AMTT)
Inventor: GERSZBERG I; MARTIN J S; OPLINGER T; TREVENTI P A; WALKER H S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6546016	B1	20030408	US 971360	A	19971231	200341 B
			US 98224283	A	19981231	

Priority Applications (No Type Date): US 98224283 A 19981231; US 971360 A 19971231

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6546016	B1	46	H04L-012/28	CIP of application US 971360 CIP of patent US 6359881

Abstract (Basic): US 6546016 B1

NOVELTY - A residence gateway (22-2) is provided to multiplex and coordinate several digital services onto a coaxial cable used for routing data to the interexchange companies. A network **server** platform is coupled to the cable facilities management platform (32-1) for generating enhanced services to the user and for distinguishing services provided by interexchange companies and those provided by local telephone network.

USE - For providing enhanced services such as high speed Internet services, video conference services, directory services, multimedia services, and also for providing services, weather, news head lines, stock quotes, ticket information, restaurant information, call conferencing, **billing** system, mailing system, advertisements, emergency services, electronic shopping, sports ticket ordering, catalog ordering, to digital video phone, facsimile, personal **computer**, cable television set-top devices in telephone communication system.

ADVANTAGE - **Provides** higher **bandwidth**. Improves the capabilities of the customer premises equipment. Lowers overall system **costs** to the customer by providing competitive service alternatives.

DESCRIPTION OF DRAWING(S) - The figure shows an explanatory drawing of the telecommunication network architecture.

residence gateway (22-2)
management platform (32-1)
pp; 46 DwgNo 1B/24

Title Terms: SYSTEM; ARCHITECTURE; EMERGENCY; SERVICE; NETWORK; SERVE; PLATFORM; GENERATE; ENHANCE; SERVICE; USER; DISTINGUISH; SERVICE; COMPANY
Derwent Class: T01; W01; W02
International Patent Class (Main): H04L-012/28
File Segment: EPI

12/5/24 (Item 24 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012912732 **Image available**
WPI Acc No: 1999-618963/199953
XRPX Acc No: N99-456328

Communication system for assisting in goods and service information delivery

Patent Assignee: AT & T CORP (AMTT)
Inventor: GERSZBERG I; MARTIN J S; WALKER H S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5970473	A	19991019	US 971421	A	19971231	199953 B

Priority Applications (No Type Date): US 971421 A 19971231

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5970473	A	23	H04L-012/28	

Abstract (Basic): US 5970473 A

NOVELTY - Each user **terminal** has a touch-sensitive screen which displays product catalog information from a database **server** (183). The screen accepts user input via touch-sensitive areas and enables selection of an item for purchase, based on the catalog information. A controller processes the purchase selections to generate purchase data, which is then processed in the **server**.

DETAILED DESCRIPTION - A database **server** (183) which processes catalog information regarding goods and services, stores shipping data of system users and is configured to determine the lowest **cost** of an item selected by the user for purchase. Each user **terminal** has a unique **terminal** identifier. The **server** stores a table with information on relationship between the **terminal** identifiers and the shipping address information. An INDEPENDENT CLAIM is also included for in-home catalog services providing method.

USE - For assisting in goods and service information delivery for remote users.

ADVANTAGE - By having access to the twisted pair wires, interexchange companies can differentiate their services by **providing** higher **bandwidth**, thereby improving the capabilities of the customer premises equipment. Overall system **costs** to the Customer is lowered, by providing competitive service alternatives. The new architecture utilizes a videophone and other devices to provide new services to an end user. The video phone is advantageous, by offering flexible platform which enables the user to place and receive phone calls. Since delivery or shipping address of a customer can be identified, using the **terminal** identifier or IP address, purchases can be made quickly and easily and do not require the time-consuming entry of shipping information. Since access to the videophone in home or business is required to make purchases, the likelihood of fraudulent use of credit cards is decreased. Using revenues derived from manufacturers, retailers and service providers, interexchange companies can offer videophones to their customers at a reduced **cost**.

DESCRIPTION OF DRAWING(S) - The figure shows block diagram of network **server** platform.

Database **server** (183)
pp; 23 DwgNo 4B/7

Title Terms: COMMUNICATE; SYSTEM; ASSIST; GOODS; SERVICE; INFORMATION;
DELIVER

Derwent Class: W01

International Patent Class (Main): H04L-012/28

File Segment: EPI

12/5/25 (Item 25 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012755317 **Image available**

WPI Acc No: 1999-561434/199947

XRPX Acc No: N99-414870

Computer **implemented process e.g. for switching packets making up telecommunication stream**

Patent Assignee: SEIKO EPSON CORP (SHIH); TURNKEY SOLUTIONS CORP (TURN-N)

Inventor: ELLIS D; MIKAMI Y; RAI A; ROLAND D; SPELL D

Number of Countries: 021 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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WO 9944335	A2	19990902	WO 99US4381	A	19990226	199947 B
EP 988770	A2	20000329	EP 99911017	A	19990226	200020
			WO 99US4381	A	19990226	
CN 1272297	A	20001101	CN 99800192	A	19990226	200112
KR 2001020340	A	20010315	KR 99709956	A	19991027	200157
JP 2002515217	W	20020521	JP 99543959	A	19990226	200236
			WO 99US4381	A	19990226	

Priority Applications (No Type Date): US 99258169 A 19990225; US 9831933 A 19980227

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 9944335	A2	E	52	H04L-012/00	
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Designated States (National): CN JP KR

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU

MC NL PT SE

EP 988770	A2	E		H04Q-011/04	Based on patent WO 9944335
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Designated States (Regional): DE FR GB IT

CN 1272297	A			H04Q-011/04	
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KR 2001020340	A			H04L-012/00	
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JP 2002515217	W		70	H04L-012/02	Based on patent WO 9944335
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Abstract (Basic): WO 9944335 A2

NOVELTY - The method involves identifying one packet, being transmitted on a medium having a bandwidth, as a component of the stream. A characteristic of the stream is identified, using the packet when the characteristic is partially predictive of likely data size of the stream. Additional packets are identified as components of the stream. A decision is made based on the first characteristic whether to switch some of the additional packets to a second medium having a bandwidth larger than the first bandwidth.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a **computer** implemented process, in a telecommunications system for queuing data streams, a **computer** implemented process in a telecommunication system for controlling packet rate, and a **computer** implemented process in a telecommunication system for providing security.

USE - For switching packets making up telecommunication stream.

ADVANTAGE - **Provides bandwidth allocation** apparatus and procedures which reduce or minimize **costs** to telecommunications companies and developers which reduce or avoid recertification **costs** and are partially vendor independent.

DESCRIPTION OF DRAWING(S) - The figure shows a block diagram depicting a modular implementation an embodiment of the invention.

pp; 52 DwgNo 4/24

Title Terms: **COMPUTER** ; IMPLEMENT; PROCESS; SWITCH; PACKET; UP; TELECOMMUNICATION; STREAM

Derwent Class: W01

International Patent Class (Main): H04L-012/00 ; H04L-012/02 ;

H04Q-011/04

International Patent Class (Additional): H04L-012/56 ; H04L-012/66 ;

H04M-011/00; H04Q-003/00

File Segment: EPI

12/5/26 (Item 26 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011906188 **Image available**

WPI Acc No: 1998-323098/199828

XRPX Acc No: N98-252640

Improved operation of multiple access reservation packet communication - allocates channel bandwidth required to one mobile station, e.g. up-link and down-link packet data channels, and reserved random-access channel

Patent Assignee: TELEFONAKTIEBOLAGET ERICSSON L M (TELF)

Inventor: TURINA D

Number of Countries: 081 Number of Patents: 014

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9824250	A2	19980604	WO 97SE1992	A	19971127	199828 B
AU 9851439	A	19980622	AU 9851439	A	19971127	199844
ZA 9710591	A	19990127	ZA 9710591	A	19971125	199910
TW 353839	A	19990301	TW 97117449	A	19971121	199930
EP 941620	A2	19990915	EP 97946222	A	19971127	199942
			WO 97SE1992	A	19971127	
US 6031832	A	20000229	US 96755572	A	19961127	200018
BR 9713436	A	20000201	BR 9713436	A	19971127	200023
			WO 97SE1992	A	19971127	
CN 1244996	A	20000216	CN 97181467	A	19971127	200027
AU 720471	B	20000601	AU 9851439	A	19971127	200035
MX 9904959	A1	19991101	MX 994959	A	19990526	200106
JP 2001505018	W	20010410	WO 97SE1992	A	19971127	200128
			JP 98524612	A	19971127	
KR 2000069152	A	20001125	WO 97SE1992	A	19971127	200130
			KR 99704680	A	19990527	
RU 2198475	C2	20030210	WO 97SE1992	A	19971127	200324
			RU 99113437	A	19971127	
MX 210419	B	20020923	WO 97SE1992	A	19971127	200368
			MX 994959	A	19990526	

Priority Applications (No Type Date): US 96755572 A 19961127

Cited Patents: No-SR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9824250	A2	E	23	H04Q-007/22	
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 9851439	A				Based on patent WO 9824250
ZA 9710591	A		48	H04Q-000/00	
TW 353839	A			H04L-012/52	
EP 941620	A2	E			Based on patent WO 9824250
Designated States (Regional): DE FR GB IT					
US 6031832	A			H04B-007/212	
BR 9713436	A			H04Q-007/22	Based on patent WO 9824250
CN 1244996	A			H04Q-007/22	
AU 720471	B			H04Q-007/22	Previous Publ. patent AU 9851439 Based on patent WO 9824250
MX 9904959	A1			H04Q-007/22	
JP 2001505018	W		26	H04J-003/16	Based on patent WO 9824250
KR 2000069152	A			H04Q-007/22	Based on patent WO 9824250
RU 2198475	C2			H04Q-007/22	Based on patent WO 9824250
MX 210419	B			H04Q-007/22	

Abstract (Basic): WO 9824250 A

The inventive system uses a multiple access packet reservation protocol. Physical channels are allocated to one mobile station (MS) referred to as a 'VIP' MS. This has exclusive priority of their use for packet data transfer when required, hence has negotiated bandwidth always available. The MS is also given highest exclusive access priority, through a reserved random-access channel.

Since the VIP MS is always scheduled first for down-link transmissions, and reserved access is provided on the uplink, the delay period is constant, as opposed to variable random-access delay with prior art systems.

USE - In mobile packet radio communication, e.g. new General Packet Radio Service for GSM communication, providing quality-of-service level similar to that of circuit-switched services.

ADVANTAGE - Guarantees negotiated bandwidth with constant delay to MS for packet data services, increasing system throughput, and hence lowering **cost** to final **terminal** users of wired network packet data

services.

Dwg.3/7

Title Terms: IMPROVE; OPERATE; MULTIPLE; ACCESS; RESERVE; PACKET;
COMMUNICATE; ALLOCATE; CHANNEL; BANDWIDTH; REQUIRE; ONE; MOBILE; STATION;
UP; LINK; DOWN; LINK; PACKET; DATA; CHANNEL; RESERVE; RANDOM; ACCESS;
CHANNEL

Derwent Class: W01; W02

International Patent Class (Main): H04B-007/212; H04J-003/16; **H04L-012/52**
; H04Q-000/00; H04Q-007/22

International Patent Class (Additional): H04J-003/00; H04Q-007/38

File Segment: EPI

12/5/27 (Item 27 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011615893 **Image available**

WPI Acc No: 1998-033021/199803

XRPX Acc No: N98-026502

**Dynamic allocation method for assigning higher bandwidth to user -
having user requesting bandwidth from connection node which forwards
messages via switches to destination for confirmation**

Patent Assignee: MCI COMMUNICATIONS CORP (MCIC-N)

Inventor: SHERMAN F A

Number of Countries: 022 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9745982	A1	19971204	WO 97US9405	A	19970530	199803 B
AU 9731514	A	19980105	AU 9731514	A	19970530	199821
US 5978387	A	19991102	US 96660686	A	19960531	199953

Priority Applications (No Type Date): US 96660686 A 19960531

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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WO 9745982	A1	E 29	H04L-012/28	
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Designated States (National): AU CA JP MX

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC
NL PT SE

AU 9731514	A	H04L-012/28	Based on patent WO 9745982
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US 5978387	A	H04J-003/16	
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Abstract (Basic): WO 9745982 A

The communications system has a source user (106a) connected to a destination user (106c) via links (112) and switches (108). Initially a normal voice **bandwidth** link may be **assigned**. When the source user requires a different bandwidth the source issues a request to the initial **terminal**. This **node** identifies the incoming and outgoing channels and **assigns** the request **bandwidth**.

The request is passed onto the next switch which also affirms the **bandwidth** and adds the **assigned** channels to the message. The process is repeated through other switches until the destination is reached. The destination confirms the **bandwidth allocation** and returns confirmation to the source through the assigned channels.

ADVANTAGE - Allows bandwidth to be dynamically varied and then **charged** according to assigned rather than default bandwidths.

Dwg.1/5

Title Terms: DYNAMIC; ALLOCATE; METHOD; ASSIGN; HIGH; BANDWIDTH; USER; USER
; REQUEST; BANDWIDTH; CONNECT; **NODE** ; FORWARD; MESSAGE; SWITCH;
DESTINATION; CONFIRM

Derwent Class: W01

International Patent Class (Main): H04J-003/16; **H04L-012/28**

International Patent Class (Additional): H04J-003/22; H04Q-011/04

File Segment: EPI

12/5/31 (Item 31 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011021194 **Image available**

WPI Acc No: 1996-518144/199651

XRPX Acc No: N96-436662

Switching communication bandwidth on communication path during multimedia call - responding to new messages that can allocate or deallocate bandwidth associated with call at each intervening switching node through which call passes

Patent Assignee: AT & T IPM CORP (AMTT); LUCENT TECHNOLOGIES INC (LUCE)

Inventor: BALES B M; THIELER S M

Number of Countries: 011 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5574724	A	19961112	US 95451282	A	19950526	199651 B
EP 748094	A2	19961211	EP 96303306	A	19960513	199703
AU 9652391	A	19961205	AU 9652391	A	19960520	199706
CA 2172650	A	19961127	CA 2172650	A	19960326	199713
JP 9098165	A	19970408	JP 96129394	A	19960524	199724
CN 1138259	A	19961218	CN 96100270	A	19960520	199806
CA 2172650	C	19990928	CA 2172650	A	19960326	200006
SG 82560	A1	20010821	SG 969872	A	19960524	200158

Priority Applications (No Type Date): US 95451282 A 19950526

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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US 5574724	A	22	H04L-012/54	
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EP 748094	A2 E	21	H04L-029/06	
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Designated States (Regional): DE ES FR GB IT

AU 9652391	A		H04M-011/08	
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CA 2172650	A		H04M-003/42	
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JP 9098165	A	19	H04L-012/02	
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CN 1138259	A		H04L-012/00	
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CA 2172650	C E		H04M-003/42	
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SG 82560	A1		H04M-000/00	
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Abstract (Basic): US 5574724 A

The method of switching communication bandwidth on a communication path through a switching system having a number of switch **nodes** involves a terminating switch **node** transmitting a first message for switching the communication bandwidth on the communication path through the switching system. The message is received by a first one of the switch **nodes** via a signalling channel that is part of the communication path.

A requested change in telecommunication bandwidth is determined by the first switch **node** using the message. The communication bandwidth through the switch **node** is modified to **provide** the requested communication **bandwidth**. A first switch **node** transmits the first message via the signalling channel to a next sequential one of the switch **nodes** in the communication path. Preferably the communication bandwidth is modified by type of bandwidth, increased or decreased.

USE/ADVANTAGE - Increases flexibility of system. Allows new features to be added to call in progress. Enables communication **costs** to be adjusted according to increase or decrease in communication traffic.

Dwg.5/9

Title Terms: SWITCH; COMMUNICATE; BANDWIDTH; COMMUNICATE; PATH; CALL; RESPOND; NEW; MESSAGE; CAN; ALLOCATE; BANDWIDTH; ASSOCIATE; CALL; INTERVENING; SWITCH; **NODE** ; THROUGH; CALL; PASS

Derwent Class: T01; W01

International Patent Class (Main): H04L-012/00 ; H04L-012/02 ; H04L-012/54 ; H04L-029/06 ; H04M-000/00; H04M-003/42; H04M-011/08

International Patent Class (Additional): H04L-012/50 ; H04L-029/08 ; H04M-003/00; H04M-003/56; H04N-007/15; H04Q-003/545; H04Q-011/04

File Segment: EPI

13/5/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014592857 **Image available**
WPI Acc No: 2002-413561/200244
XRPX Acc No: N02-325024

Communication channel assignment method in wireless communication network, involves frequency re-use planning for efficient bandwidth utilization and large coverage area

Patent Assignee: AIRNET COMMUNICATIONS CORP (AIRN-N)

Inventor: KOMARA M A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6370384	B1	20020409	US 9894661	P	19980730	200244 B
			US 99362867	A	19990729	

Priority Applications (No Type Date): US 9894661 P 19980730; US 99362867 A 19990729

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6370384	B1	17	H04Q-007/20	Provisional application US 9894661

Abstract (Basic): US 6370384 B1

NOVELTY - Multiple base transceiver system (BTS) are provided for communication within a cluster of cells. Each cell in the cluster has an associative repeater. The communication channel from a pair of adjacent communication channels, communicates between BTS and repeater of single cell and the adjacent channel of the pair connects BTS and repeater of next cell.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for wireless communication network.

USE - Used for wireless communication network (claimed) using radio communication bandwidth such as cellular mobile telephone (CMT) and personal communication system (PCS).

ADVANTAGE - Minimizes interference between co-channels and adjacent channels. **Provides** improved efficiency in **bandwidth** utilization. Using repeaters, improves coverage area, reduces **cost** and improves clarity.

DESCRIPTION OF DRAWING(S) - The figure shows the frequency re-use plan in wireless communication network.

pp; 17 DwgNo 4/9

Title Terms: COMMUNICATE; CHANNEL; ASSIGN; METHOD; WIRELESS; COMMUNICATE; NETWORK; FREQUENCY; PLAN; EFFICIENCY; BANDWIDTH; UTILISE; COVER; AREA

Derwent Class: W01; W02

International Patent Class (Main): H04Q-007/20

International Patent Class (Additional): H04B-007/14

File Segment: EPI

13/5/27 (Item 27 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013406367 **Image available**
WPI Acc No: 2000-578305/200054
Related WPI Acc No: 1997-470343; 1997-503421; 2001-090318; 2001-201725; 2002-074656
XRPX Acc No: N00-427855

Communication system has server with XDSL modems which along with modems located at subscriber premises, provide high bandwidth data service

Patent Assignee: CISCO TECHNOLOGY INC (CISC-N)

Inventor: MCHALE J F

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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US 6088430 A 20000711 US 96625769 A 19960329 200054 B
US 97823322 A 19970320

Priority Applications (No Type Date): US 96625769 A 19960329; US 97823322 A 19970320

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6088430	A		16	H04M-011/00	Cont of application US 96625769
					Cont of patent US 5668857

Abstract (Basic): US 6088430 A

NOVELTY - A **server** (58) is connected to local loops formed by twisted lines (16) connected to XDSL modems (30) located at subscriber premises. The **server** has XDSL modems to communicate with the modem (30). Both the modems **provide** high **bandwidth** data service.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the method of coupling the twisted pair lines with the XDSL modems.

USE - For providing data service suitable for high bandwidth applications such as video on demand, multimedia and internet access.

ADVANTAGE - Enables efficiently tracking subscriber usage, monitoring subscriber information and generating **billing** information.

DESCRIPTION OF DRAWING(S) - The figure shows the communication system.

Twisted line (16)

Modems (30)

Server (58)

pp; 16 DwgNo 1/9

Title Terms: COMMUNICATE; SYSTEM; SERVE; MODEM; MODEM; LOCATE; SUBSCRIBER; PREMISES; HIGH; BANDWIDTH; DATA; SERVICE

Derwent Class: W01

International Patent Class (Main): H04M-011/00

File Segment: EPI

13/5/31 (Item 31 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012953952 **Image available**

WPI Acc No: 2000-125802/200011

XRPX Acc No: N00-094805

Dynamic flexible marketing system for use in telecommunication system

Patent Assignee: ERICSSON INC (TELF)

Inventor: BALACHANDRAN S

Number of Countries: 086 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6006085	A	19991221	US 9899999	A	19980619	200011 B
WO 9966706	A1	19991223	WO 99US13027	A	19990611	200011
AU 9944310	A	20000105	AU 9944310	A	19990611	200024
EP 1088443	A1	20010404	EP 99927400	A	19990611	200120
			WO 99US13027	A	19990611	
BR 9911386	A	20010320	BR 9911386	A	19990611	200123
			WO 99US13027	A	19990611	
CN 1313002	A	20010912	CN 99809716	A	19990611	200202
AU 763544	B	20030724	AU 9944310	A	19990611	200355

Priority Applications (No Type Date): US 9899999 A 19980619

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6006085	A		11	H04B-001/06	
WO 9966706	A1	E		H04M-015/28	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR

IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG,ZW
 AU 9944310 A H04M-015/28 Based on patent WO 9966706
 EP 1088443 A1 E H04M-015/28 Based on patent WO 9966706
 Designated States (Regional): DE GB
 BR 9911386 A H04M-015/28 Based on patent WO 9966706
 CN 1313002 A H04M-015/28
 AU 763544 B H04M-015/28 Previous Publ. patent AU 9944310
 Based on patent WO 9966706

Abstract (Basic): US 6006085 A

NOVELTY - A marketing **node** determines the current utilization of available bandwidth within telecommunication system and optimum utilization. The **node** determines discount rates, based on the bandwidth utilization ratio by the subscriber. When current utilization of the available bandwidth is less than optimum utilization, corresponding message is sent to subscriber, for offering discount rate.

DETAILED DESCRIPTION - A mobile switching center is provided in communication with marketing **node** and subscriber, and connects call between subscribers using discount information. An INDEPENDENT CLAIM is also included for method for maximizing utilization of available bandwidth.

USE - For telecommunication systems e.g. D-AMPS, AMPS, GSM, CDMA, narrow band or wideband systems and wireline networks. The DFMS system can be utilized for TV, cable, satellite and internet connections and any system **providing bandwidth** service to customers.

ADVANTAGE - Bandwidth utilization is maximized simultaneously maximizing revenue for wireless service providers. Service providers are enabled to tailor **charging** rates based upon current bandwidth utilization rate.

DESCRIPTION OF DRAWING(S) - The figure shows steps involved in dynamic flexible marketing system.

pp; 11 DwgNo 3/4

Title Terms: DYNAMIC; FLEXIBLE; MARKET; SYSTEM; TELECOMMUNICATION; SYSTEM

Derwent Class: W01; W02

International Patent Class (Main): H04B-001/06; H04M-015/28

File Segment: EPI

13/5/34 (Item 34 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011492430 **Image available**

WPI Acc No: 1997-470343/199743

Related WPI Acc No: 1997-503421; 2000-578305; 2001-090318; 2001-201725;
 2002-074656

XRPX Acc No: N97-392471

Communication system for data communication using communication server
 - couples several subscribers to central office, which has telephone
 switch and communication server having several XDSL modems for
 providing data service, using twisted pair subscriber lines

Patent Assignee: NETSPEED INC (NETS-N)

Inventor: MCHALE J F

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5668857	A	19970916	US 96625769	A	19960329	199743 B

Priority Applications (No Type Date): US 96625769 A 19960329

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5668857	A	15	H04M-011/00	

Abstract (Basic): US 5668857 A

The communication system includes several **computers** which each have a digital subscriber line (XDSL) modem and which are located at several subscriber premises. Several twisted pair subscriber lines are coupled to the **computers**, each twisted pair subscriber line forming a

local loop. A splitter is remotely located from the subscriber premises and coupled to the local loops to split each subscriber line into a twisted pair data line and a twisted pair phone line.

A communication **server** is coupled to the twisted pair data lines of the splitter. The **server** has several second XDSL modems to communicate information with the first XDSL modems using the twisted pair subscriber lines and associated data lines. The **server** is coupled to the second XDSL modems to select subsets of the data lines. Both the first and second modems **provide** high **bandwidth** data service using the twisted pair subscriber lines.

USE/ADVANTAGE - E.g. for providing video-on-demand, multimedia or Internet (RTM) access. Uses reduced number of XDSL communication facilities. Tracks subscriber usage, monitors subscriber information and generates **billing** and demographic information. Disconnects subscriber after predetermined period of inactivity, to release modem for use by another subscriber.

Dwg.1/9

Title Terms: COMMUNICATE; SYSTEM; DATA; COMMUNICATE; COMMUNICATE; SERVE;
COUPLE; SUBSCRIBER; CENTRAL; OFFICE; TELEPHONE; SWITCH; COMMUNICATE;
SERVE; MODEM; DATA; SERVICE; TWIST; PAIR; SUBSCRIBER; LINE
Derwent Class: W01; W02
International Patent Class (Main): H04M-011/00
File Segment: EPI

13/5/35 (Item 35 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011366182 **Image available**

WPI Acc No: 1997-344089/199732

XRFX Acc No: N97-285371

Computer **adapted** for receiving and transmitting audio, video and data signals - has microprocessor and digital transceiver transmitting and receiving compressed video and audio signals over fixed bandwidth, computer **memory** programming microprocessor to dynamically allocate fixed bandwidth to video and audio signals

Patent Assignee: LSI LOGIC CORP (LSIL-N)

Inventor: DAANE J; JAGGI S; ROSTOKER M; ROSTOKER M D

Number of Countries: 007 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 783232	A2	19970709	EP 96309338	A	19961220	199732 B
JP 9200863	A	19970731	JP 96350048	A	19961227	199741
US 5729535	A	19980317	US 95581676	A	19951229	199818

Priority Applications (No Type Date): US 95581676 A 19951229

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 783232	A2	E	13	H04N-007/52	
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Designated States (Regional): DE FR GB IT NL

JP 9200863	A	12	H04Q-007/38
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US 5729535	A	11	H04N-007/04
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Abstract (Basic): EP 783232 A

The **computer** (9) includes a microprocessor (22) and a digital transceiver (18 and 20) transmitting and receiving compressed video and audio signals over a fixed bandwidth. The **computer** memory programs the microprocessor to dynamically **allocate** the fixed **bandwidth** among the video and audio signals.

The dynamic allocation is performed by varying the rates at which the audio and video signals are compressed. The fixed bandwidth is an RF bandwidth. The **computer** memory includes a ROM (17) for storing an application program for the microprocessor.

ADVANTAGE - Configures existing **computers** for wireless communications over airwaves in **cost** effective manner, using any no more components than necessary.

Dwg.3/6

Title Terms: **COMPUTER** ; ADAPT; RECEIVE; TRANSMIT; AUDIO; VIDEO; DATA;
SIGNAL; MICROPROCESSOR; DIGITAL; TRANSCEIVER; TRANSMIT; RECEIVE; COMPRESS
; VIDEO; AUDIO; SIGNAL; FIX; BANDWIDTH; **COMPUTER** ; MEMORY; PROGRAM;
MICROPROCESSOR; DYNAMIC; ALLOCATE; FIX; BANDWIDTH; VIDEO; AUDIO; SIGNAL
Derwent Class: T01; W01; W02; W04
International Patent Class (Main): H04N-007/04; H04N-007/52; H04Q-007/38
International Patent Class (Additional): H04N-001/41; H04N-005/14
File Segment: EPI

13/5/45 (Item 45 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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008622599 **Image available**
WPI Acc No: 1991-126629/199118
XRPX Acc No: N91-097445

**Real-time switching of high bandwidth transmission channels - selecting
transmission route between originating and destination terminals using
standard call processing route selection routines**

Patent Assignee: AT & T CORP (AMTT); AMERICAN TELEPHONE & TELEGRAPH CO
(AMTT)

Inventor: LEE R C; LEIGHTON J M; OREILLY G P; SMITH D E; SMAITH D E

Number of Countries: 007 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 425145	A	19910502	EP 90311202	A	19901012	199118 B
US 5042062	A	19910820	US 89425644	A	19891023	199136
JP 3265257	A	19911126	JP 90283575	A	19901023	199202
EP 425145	A3	19930505	EP 90311202	A	19901012	199402
EP 425145	B1	19960911	EP 90311202	A	19901012	199641
DE 69028480	E	19961017	DE 628480	A	19901012	199647
			EP 90311202	A	19901012	
ES 2093019	T3	19961216	EP 90311202	A	19901012	199707

Priority Applications (No Type Date): US 89425644 A 19891023

Cited Patents: NoSR.Pub; 1.Jnl.Ref; EP 119588; FR 2548495; US 3766324; US
4577312

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 425145	B1	E	21	H04Q-011/04	
Designated States (Regional): DE ES FR GB IT					
DE 69028480	E			H04Q-011/04	Based on patent EP 425145
ES 2093019	T3			H04Q-011/04	Based on patent EP 425145

Abstract (Basic): EP 425145 A

A circuit transmits control commands from the exchange to the device. The device has **terminal** ports for connection to broadband **terminals** , link ports for connection to broadband interconnection links to other broadband interconnection devices and port interconnection circuits responsive to control commands for selectively establishing interconnecting paths between ports.

The exchange is responsive to a connection request from a **terminal** connected to one of the **terminal** ports, for selecting a link port and for transmitting to another device a control command defining one of the **terminal** ports and the selected link ports. The port interconnection circuit is responsive to the control command for establishing a path from the **terminal** ports to the selected link ports. A telephone exchange connected to a broadband interconnection device is responsive to a request from a broadband **terminal** to select an interswitch link between broadband interconnection devices and to control the connected device to establish the required connections of the selected link.

USE/ADVANTAGE - Flexible arrangement for **providing** services using high **bandwidth** , such as video conferencing among subscribers, **pay** -per-view television services etc. (16pp Dwg.No.1/6)

Title Terms: REAL-TIME; SWITCH; HIGH; BANDWIDTH; TRANSMISSION; CHANNEL;
SELECT; TRANSMISSION; ROUTE; ORIGIN; DESTINATION; **TERMINAL** ; STANDARD;
CALL; PROCESS; ROUTE; SELECT; ROUTINE

File 348:EUROPEAN PATENTS 1978-2004/Jan W02

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File 349:PCT FULLTEXT 1979-2002/UB=20031225,UT=20031218

(c) 2003 WIPO/Univentio

Set	Items	Description
S1	291339	BANDWIDTH OR BAND()WIDTH OR CAPACITY OR THROUGHPUT
S2	49247	S1(5N) (ALLOCAT? OR PROVID??? OR PROVISION??? OR DESIGNAT? - OR PRESCRIB? OR ASSIGN??? OR ALLOT? OR APPORTION? OR GRANT??? OR GIV??? OR CONFER??? OR SUPPLY??? OR SUPPLIED OR SUPPLIES OR DOLE? ? OR DOLING)
S3	242476	(RATE OR RATES OR SPEED) (5N) (DATA OR INFORMATION OR STREAM- ??? OR CONTENT OR FLOW??? OR SERVICE OR TRANSMIT? OR TRANSMIS- SION OR TRANSFER???? OR TRANSPORT? OR DELIVER? OR COMMUNICAT? OR DISTRIBUT? OR BROADCAST? OR MULTICAST?)
S4	678243	CHARG??? OR COST? ? OR PRIC??? OR FEE OR FEES OR BILL??? OR PAY??? OR PAYMENT? ?
S5	1379203	CLIENT? ? OR PC? ? OR COMPUTER? ? OR TERMINAL? ? OR WORKST- ATION? ? OR WORK()STATION? ? OR NODE? ? OR SERVER? ?
S6	1365	S2(100N)S3(100N)S4(100N)S5
S7	12221	BANDWIDTH(3N) (ALLOCAT? OR PROVID??? OR PROVISION??? OR DES- IGNAT? OR PRESCRIB? OR ASSIGN??? OR ALLOT? OR APPORTION? OR G- RANT??? OR GIV??? OR CONFER??? OR SUPPLY??? OR SUPPLIED OR SU- PPLIES OR DOLE? ? OR DOLING)
S8	276	S7(50N)S3(50N)S4(50N)S5
S9	177975	(RATE OR RATES) (3N) (DATA OR INFORMATION OR STREAM??? OR CO- NTENT OR FLOW??? OR SERVICE OR TRANSMIT? OR TRANSMISSION OR T- RANSFER???? OR TRANSPORT? OR DELIVER? OR COMMUNICAT?)
S10	185	S7(50N)S9(50N)S4(50N)S5
S11	34	S10 AND IC=G06F
S12	151	S10 NOT S11
S13	7	S12/TI, AB, CM
S14	144	S12 NOT S13
S15	66'	S14 AND IC=H04L
S16	78'	S14 NOT S15
S17	443036	CHARG??? OR PRIC??? OR FEE OR FEES OR BILL??? OR PAY??? OR PAYMENT? ?
S18	339	S7(50N)S17(50N)S5
S19	4775	BANDWIDTH(3N) (ALLOCAT? OR PROVISION??? OR ASSIGN??? OR ALL- OT? OR APPORTION?)
S20	167	S19(50N)S17(50N)S5
S21	137	S20 NOT S10
S22	36	S21 AND IC=G06F
S23	101	S21 NOT S22
S24	10	S23/TI, AB, CM
S25	91	S23 NOT S24
S26	39	S25 AND IC=H04L
S27	52	S25 NOT S26

15/5,K/10 (Item 10 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01147962

Method and system in a packet switching network for dynamically adjusting the bandwidth of a continuous bit rate virtual path connection according to the network load

Verfahren und System in einem Paketvermittlungsnetz zur dynamischen Anpassung der Bandbreite eines virtuellen Pfades mit kontinuierlichem Bitrate, in Ubereinstimmung mit der Netzwerkbelastung

Methode et systeme dans un reseau de commutation de paquets pour l'ajustement dynamique de la largeur de bande d'une voie virtuelle, en fonction de la charge du reseau

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 1001574 A1 000517 (Basic)

APPLICATION (CC, No, Date): EP 98480078 981110;

DESIGNATED STATES: DE; FR; GB

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: H04L-012/56 ; H04Q-011/04

ABSTRACT EP 1001574 A1

The present invention relates to a system and method for dynamically adjusting the bandwidth of a continuous bit rate virtual path connection established between a source node and a destination node within a packet or cell switching network comprising a plurality of nodes interconnected with transmission links. In the network, a bandwidth management server having access to information concerning network nodes and transmission links is defined. This server is informed each time a virtual path connection or a virtual channel connection is established on the network with an indication concerning the initial bandwidth reserved for said connection. The server detects and shares, on a continuous or periodical mode, the bandwidth which is available on transmission links among the bandwidth adjustable continuous bit rate virtual path connections and determines for each connection a new bandwidth. The source node is informed each time a new bandwidth is computed. It adjusts the bandwidth of the corresponding bandwidth adjustable continuous bit rate virtual path connection accordingly.

ABSTRACT WORD COUNT: 163

NOTE:

Figure number on first page: 18

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 000517 A1 Published application with search report

Examination: 000614 A1 Date of request for examination: 20000418

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200020	1272
SPEC A	(English)	200020	12114
Total word count - document A			13386
Total word count - document B			0
Total word count - documents A + B			13386

INTERNATIONAL PATENT CLASS: H04L-012/56 ...

...SPECIFICATION to network applications. For ATM, for instance, four different service categories exist, and a user will choose one of them based on the type of **service** required :

* Continuous Bit **Rate** (CBR)

This **service** is intended for uncompressed voice, and highest priority applications (video). The **price** to **pay** for this service is the highest because the bandwidth which is reserved, corresponds to the maximum rate (Peak Cell Rate **PCR**) at which this type of applications can emit. This is the **bandwidth** to **allocate** when the quality of service, in terms of maximum Cell Transfer Delay (maxCTD) and Peak to peak Cell Delay Variation (peak to peak CDV), must be guaranteed whatever the network load conditions.

* Variable Bit **Rate** (VBR)

This **service** is a compromise between the Continuous Bit Rate (CBR), which requires a lot of resources, and a service where no reservation of bandwidth would be done. Effectively here, a bandwidth comprised between the Sustainable Cell Rate (SCR) of the connection and the Peak Cell Rate (**PCR**) of said connection is allocated, depending on the burstiness of the traffic :

* When the bursts created by the application in the network are limited, a...one VPCM per link. In the present embodiment, we will assume that there is one VPCM per link.

Virtual Path Connection Manager

In VPC source **nodes** , each Virtual Path Connection Manager (VPCM) monitor the bandwidth of the VPCs established on the link they are responsible for. The bandwidth information of these...

...the Topology DataBase (TDB) all information related to the bandwidth allocation of links. The Topology DataBase is updated each time a significant change in the **bandwidth allocation** of a link occurs and messages are sent to all other network nodes to update their own Topology DataBase.

Bandwidth Adjustment

Figure 13 describes the...ATM backbone network a RM-cell associated to a particular ABR (standard RM-cell) or bandwidth adjustable CBR (proprietary RM-cell) VPC and extracts the **transmission rate** from the Congestion Indication (CI), No Increase (NI), and/or Explicit **Rate** (ER)...

* 1302. This **transmission rate** transported by the RM-cell in the CI, NI, ER ... fields is transmitted to the Virtual Path Connection Manager (VPCM).

* 1303. The Virtual Path Connection Manager (VPCM) re-initializes the shaper for the corresponding VPC, computing new shaping rates, and updating the VPC " **allocated bandwidth** " field in the Virtual Path Connection Table (VPCT).

* 1304. From the **bandwidth** newly **allocated** to the VPC, the bandwidth of each VCC within this VPC is re-evaluated, based on the values maintained in the VPCT. The process in...

...bandwidth of an ABR or CBR Virtual Path Connection (VPC) is modified, the Virtual Path Connection Manager (VPCM) is in charge of computing the new **bandwidth allocated** to each Virtual Channel Connection (VCC) according to the new VPC bandwidth. In a preferred embodiment, a shaping function is provided to the transmit part of the adapter, in order to limit the **transmission** rate of the existing traffic to a predefined value.

Virtual Path Connection Table

In VPC source **nodes** , each Virtual Path Connection Manager (VPCM) monitors the bandwidth of the VPCs established on the link they are responsible for. In particular they update the...

00993591

Communication system architecture, exchange and method of operation
Architektur, Vermittlung und Betriebsverfahren für ein Kommunikationssystem
Architecture, commutateur et méthode d'opération pour système de
communication

PATENT ASSIGNEE:

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, (GB)

LEGAL REPRESENTATIVE:

Anderson, Angela et al (78508), Nortel Networks Limited IP Law Group

London Road, Harlow, Essex CM17 9NA, (GB)

PATENT (CC, No, Kind, Date): EP 898409 A2 990224 (Basic)

EP 898409 A3 040107

APPLICATION (CC, No, Date): EP 98306533 980814;

PRIORITY (CC, No, Date): GB 9805029 980311; US 914919 970819

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: H04M-011/06; **H04L-012/28**

ABSTRACT EP 898409 A2

An exchange (12) has a cross-point switch that is arranged to couple data transmission between subscriber terminals (16, 18), each having a dedicated modem (34), and at least one assignable modem (148) located in the exchange (12). The exchange (12) comprises fewer assignable modems than a combined number of dedicated modems within the subscriber terminals (16, 18) and, since the cross-point switch (106) is responsive to the data transmission sent via the modems of the subscriber terminals, the cross-point switch (106) thereby acts to concentrate a ratio of dedicated modems to assignable modems.

ABSTRACT WORD COUNT: 94

NOTE:

Figure number on first page: 2

LEGAL STATUS (Type, Pub Date, Kind, Text):

Assignee: 000927 A2 Transfer of rights to new applicant: Nortel
Networks Limited (3029040) World Trade Center
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Application: 990224 A2 Published application (A1with Search Report
;A2without Search Report)

Search Report: 040107 A3 Separate publication of the search report

Change: 040107 A2 International Patent Classification changed:
20031121

Change: 030326 A2 Legal representative(s) changed 20030204

Change: 010711 A2 Legal representative(s) changed 20010522

Assignee: 031008 A2 Transfer of rights to new applicant: Nortel
Networks Limited (3029042) 2351 Boulevard
Alfred-Nobel St. Laurent, Quebec H4S 2A9 CA

*Assignee: 990714 A2 Applicant (name, address) (change)

LANGUAGE (Publication, Procedural, Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
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CLAIMS A	(English)	9907	870
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SPEC A	(English)	9907	4476
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Total word count - document A			5346
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Total word count - document B			0
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Total word count - documents A + B			5346
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...INTERNATIONAL PATENT CLASS: **H04L-012/28**

...SPECIFICATION cross-point switch 156 (or, optionally, through a series of cross-point switches) to the allocated communication resource 102 that is assigned to the subscriber **terminal**, e.g. data **terminal** 18.

While equipment on the customer premises cannot be shared, the present invention has identified the opportunity for some of the per line equipment in...

...concentration function will therefore be subject to calling rates and call duration considerations. However, in most cases, it is desirable to connect as many subscriber **terminals** as possible from a single distribution point, e.g. from a local exchange. This mentality allows for economies of scale and an associated **cost** reduction as a consequence of reduced infrastructure complexity (on a per line basis).

The present invention allows broadband modems to be concentrated (i.e. shared) at each exchange or interface between a subscriber **terminal** world and an infrastructure world. This means that a customer does not need a dedicated modem at the exchange, but can call one up as required. This sharing of broadband modems reduces the number of modems required from 2 (two) per subscriber **terminal** to, for example, 1.2 (one point two) per subscriber **terminal**, depending upon the concentration ratio used within the cross-point switches. The present invention therefore provides a significant **cost** reduction in the deployment of broadband services. In other words, as will now be understood, concentration of modems required for more complex coding schemes (that can support high **data rates** approaching ten megabits per second (MBPS) over significant cabling lengths approaching one kilometre or more) can be supported by the present invention.

Based on the assumption that there is an equal amount of traffic **bandwidth assigned** to both the upstream and the downstream then the concentration functions provided in the cross-point switches in relation to these directions of communication is nominally equal. In other words, a subscriber **terminal** that is on-line may always be allocated with a modem connection for use in both traffic directions. However, certain scenarios arise in which one...

...environment) may be unused for considerable periods of time. As such, it is contemplated that the activity detector 118 could time-out a first subscriber **terminal** and then cause release of an upstream modem facility for another different subscriber **terminal**. Subsequently, at a time when the first subscriber **terminal** again wants access

15/5,K/20 (Item 20 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00759014

Method for preempting connections in high speed packet switching networks
Verfahren zur Vorrangunterbrechung von Verbindungen in einem
Hochgeschwindigkeits-Paketvermittlungsnetz
Procede pour la preemption de connections dans un reseau de commutation de
paquets a haute vitesse

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 714192 A1 960529 (Basic)

APPLICATION (CC, No, Date): EP 94480143 941124;

PRIORITY (CC, No, Date): EP 94480143 941124

DESIGNATED STATES: DE; FR; GB

ABSTRACT EP 714192 A1

The present invention deals with the capability of high speed network nodes to establish new connections by preempting existing ones when insufficient bandwidth is available in the loaded network. More particularly, it discloses the arrangement of numerous preemption priorities in a limited number of groups and the definition of a median priority level within each group. This median, stored in the topology database of each node of the network allows a better bandwidth utilization per group while consuming very little memory space and generating very low traffic overhead. (see image in original document)

ABSTRACT WORD COUNT: 108

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 960529 A1 Published application (A1with Search Report
;A2without Search Report)
Change: 970319 A1 Representative (change)
Withdrawal: 971008 A1 Date on which the European patent application
was deemed to be withdrawn: 961130

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	861
SPEC A	(English)	EPAB96	10096
Total word count - document A			10957
Total word count - document B			0
Total word count - documents A + B			10957

...SPECIFICATION particular, the size of the queues on the links increases rapidly in function of the traffic and exceeds the capacity of the buffers in the **nodes**. Packets which can not be stored any more are thrown away causing their retransmission and propagating congestion towards links located upstream generating an additional internal...

...so as to be positioned in an operating zone which is distant from the congestion. This solution is generally not adopted for evident reasons of **costs** and it is necessary to apply a certain number of preventive measures of which the main ones are :

- * the flow control for regulating the emitting **data rate** of the calling subscriber at a rate compatible with what the receiver can absorb.
- * the load regulation for globally limiting the number of packets present...

...the load characteristics of the transmission links in the connection route at the time that the connection is set up. Such connection level controls include **bandwidth allocation**, path selection, admission control and call set up. **Bandwidth allocation** is accomplished by noting, at the connection set up time, the "equivalent capacity" loading that the new connection will generate, based on the traffic characteristics...

...signal and the desired quality of service. Using this equivalent capacity as the bandwidth that must be available to carry the new connection, the originating **node** of the network computes a path to the destination **node** that is capable of carrying the new connection and providing the level of service required by the new connection. This path selection process utilizes data describing the current state of the traffic in the entire network. Such data can be stored in a topology database located at each **node**, of the network. If no suitable path can be found to meet these requirements, the connection is rejected. Once a suitable path has been selected...

15/5,K/21 (Item 21 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.

00686535

**LEAST COST ROUTE SELECTION IN DISTRIBUTED DIGITAL COMMUNICATION NETWORKS
MINDESTKOSTEN-LEITWEGSAUSWAHL IN VERTEILTEN KOMMUNIKATIONSNETZEN
SELECTION DE L'ACHEMINEMENT LE MOINS COUTEUX DANS UN RESEAU DE
COMMUNICATIONS NUMERIQUES REPARTIES**

PATENT ASSIGNEE:

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BE;CH;DE;ES;FR;GB;IE;IT;LI;LU)

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PATENT (CC, No, Kind, Date): EP 724800 A1 960807 (Basic)
EP 724800 B1 990609
WO 9505713 950223

APPLICATION (CC, No, Date): EP 94925233 940809; WO 94US9017 940809

PRIORITY (CC, No, Date): US 107869 930818

DESIGNATED STATES: BE; CH; DE; ES; FR; GB; IE; IT; LI; LU

INTERNATIONAL PATENT CLASS: H04L-012/56

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Oppn None: 000524 B1 No opposition filed: 20000310
Application: 950531 A International application (Art. 158(1))
Application: 960807 A1 Published application (A1with Search Report
;A2without Search Report)
Examination: 960807 A1 Date of filing of request for examination:
960314
Examination: 971217 A1 Date of despatch of first examination report:
971031
Change: 990421 A1 Representative (change)
*Assignee: 990421 A1 Applicant (transfer of rights) (change): ASCOM
HOLDING AG (2606290) Belpstrasse 37 3000 Berne
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*Assignee: 990506 A1 Applicant (transfer of rights) (change): ASCOM
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*Assignee: 990506 A1 Previous applicant in case of transfer of
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BE;CH;DE;ES;FR;GB;IE;IT;LI;LU)
*Assignee: 990519 A1 Applicant (transfer of rights) (change): ASCOM
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*Assignee: 990519 A1 Previous applicant in case of transfer of
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*Assignee: 990526 A1 Applicant (transfer of rights) (change):
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*Assignee: 990526 A1 Previous applicant in case of transfer of
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(applicant designated states:
BE;CH;DE;ES;FR;GB;IE;IT;LI;LU)

Grant: 990609 B1 Granted patent
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9923	773
CLAIMS B	(German)	9923	715
CLAIMS B	(French)	9923	816
SPEC B	(English)	9923	6697
Total word count - document A			0
Total word count - document B			9001
Total word count - documents A + B			9001

INTERNATIONAL PATENT CLASS: H04L-012/56

...SPECIFICATION the originating node to the designated destination node in which each link satisfies the first transmission requirements, (4) establishing the stored route from the originating **node** to the designated destination node, (5) receiving in the processor a second service request including second transmission requirements for a route from the originating node...

...than that afforded through the prior art SPF algorithm but also is more reliable in that the path selected is always in fact the least **cost** route.

In specific embodiments of the invention, transmission requirements for individual rotates may include such factors as transmission bandwidth, **transmission** delay, bit error **rate**, and the presence or absence of an encryption and decryption capability. In various embodiments of the invention, least **cost** calculations are based upon the **cost** of using specific transmission links. Link **cost** is calculated, taking into account the link **bandwidth** already **allocated** for transmission and the total bandwidth capacity of the link. The **cost** of a route is determined by adding the **costs** of all links that are contained within such a route.

Because the topology of a multiple node distributed digital communications network may change, the invention, from an additional aspect, may include the further steps of (1) recalculating in the processor (advantageously as a background operation) a least **cost** route from the originating node to each of the destination nodes in which each link satisfies the first connection requirements, (2) replacing routes stored in...

...the originating node to the designated destination node.

The invention, furthermore, is not limited to calculation of a single least cost route between any two **nodes**. Alternate routes may be calculated as well. From this aspect, the invention takes the form of a method for selecting a least cost route from an originating **node** to a designated destination **node** which includes the steps of (1) receiving in the processor a connection request including first transmission requirements for a route from the originating **node** to the designated

destination node , (2) storing the first digital transmission requirements in the memory, (3) calculating in the processor and storing in the memory a least cost route as...

15/5,K/22 (Item 22 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00628349

A wide area network (WAN) arrangement.
Anordnung fur Grossraumnetz (WAN).
Systeme pour reseau de grande extension.
PATENT ASSIGNEE:

AT&T Corp., (589373), 32 Avenue of the Americas, New York, NY 10013-2412,
(US), (applicant designated states: DE;FR;GB;IT)

INVENTOR:

Hunt, Steven David, 200 Hunt Road, Freehold, New Jersey 07728, (US)
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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 612174 A2 940824 (Basic)
EP 612174 A3 970723

APPLICATION (CC, No, Date): EP 94300789 940202;

PRIORITY (CC, No, Date): US 19974 930219

DESIGNATED STATES: DE; FR; GB; IT

INTERNATIONAL PATENT CLASS: H04L-012/66 ; H04L-029/06 ; H04L-012/46

ABSTRACT EP 612174 A2

A WAN (106) is formed using Frame Relay Protocol and a telephone network interface unit. An originating LAN (100) sends a message to a router (140) which communicates with a telephone network interface (148) unit using Frame Relay Protocol. The telephone network interface unit determines the destination of a packet received from the router (140) by interpreting the Frame Relay Protocol, and it associates a phone number with that destination. The interface unit (148) uses the phone number to establish at least one DS0 connection over a digital telephone network (130) to a destination network interface (158). A destination network interface unit (158) receives the packet from the digital telephone network (130) and provides the packet to a router (150) which interfaces to the destination LAN (102). The network interface units add or drop additional DS0 channels as required by the traffic load and thereby provide variable bandwidth. (see image in original document)

ABSTRACT WORD COUNT: 155

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 940824 A2 Published application (Alwith Search Report
;A2without Search Report)
*Assignee: 941005 A2 Applicant (transfer of rights) (change): AT&T
Corp. (589370) 32 Avenue of the Americas New
York, NY 10013-2412 (US) (applicant designated
states: DE;FR;GB;IT)
Change: 970226 A2 Representative (change)
Search Report: 970723 A3 Separate publication of the European or
International search report
Change: 970723 A2 Obligatory supplementary classification
(change)
Examination: 971105 A2 Date of filing of request for examination:
970905
Withdrawal: 980610 A2 Date on which the European patent application
was withdrawn: 980414

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF2	396
SPEC A	(English)	EPABF2	4330
Total word count - document A			4726

Total word count - document B 0
Total word count - documents A + B 4726

INTERNATIONAL PATENT CLASS: H04L-012/66 ...
... H04L-029/06 ...

... H04L-012/46

...SPECIFICATION associated with LAN 65. When a device on LAN 60 is communicating with a device on LAN 62, information packets may travel from the source **terminal** to the destination through router 68, router port 74, inverse multiplexer 70, telephone network 66, inverse multiplexer 82, router port 86, router 80, LAN 62 and finally to the destination **terminal**. Inverse multiplexers 70 and 82 provide the number of DS0 facilities that are necessary to support the **data rate** between LAN 60 and LAN 62. As mentioned earlier, DS0 facilities are added and subtracted as bandwidth requirements change.

The arrangement of FIG. 3 is superior to the arrangement of FIG. 2 in that the FIG. 3 arrangement **provides** a variable **bandwidth** between LANs. Unfortunately, the WAN of FIG. 3 assigns a different router port to each destination LAN, and thereby limits the number of LANs that can communicate simultaneously to the number of ports on the routers. Routers with many ports are expensive and drive up the **cost** of large WANs.

Summary of the Invention

The present invention provides a wide area network that comprises a plurality of LANs that are connected using...

15/5,K/24 (Item 24 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00432678

Method for regulating traffic in a high speed data network

Verfahren zur Verkehrsregelung in einem Hochgeschwindigkeitsdatennetz

Procede pour regler le trafic dans un reseau de donnees a grande vitesse

PATENT ASSIGNEE:

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Mornington Road, Woodford Green, Essex IG8 0TU, (GB)

PATENT (CC, No, Kind, Date): EP413488 A2 910220 (Basic)

EP 413488 B1 970305

APPLICATION (CC, No, Date): EP 90308648 900806;

PRIORITY (CC, No, Date): US 394390 890815

DESIGNATED STATES: DE; ES; FR; GB; IT; NL; SE

INTERNATIONAL PATENT CLASS: H04Q-011/04; H04Q-003/545; H04L-012/58 ;

H04L-012/56

ABSTRACT EP 413488 A2

The invention relates to methods and apparatus for regulating traffic in a Broadband Integrated Services Digital Network (B-ISDN) 30. Terminal adapters 20,21 interface between terminals 10,11 and the B-ISDN 30. Whenever a first terminal 10 wishes to transmit a data message to a second terminal 11, the source adapter 20, connected to the first terminal, allocates transmit bandwidth for the transmission of the message and sends a request message to a destination adapter 21, connected to the second terminal, for checking availability of and allocating receive bandwidth. The data message is sent only if bandwidth has been allocated on both ends. Overflow traffic is throttled at the adapters before it enters the network, thereby reducing the number of

data cells lost because of the limited storage of the network. (see image in original document)

ABSTRACT WORD COUNT: 136

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 910220 A2 Published application (Alwith Search Report
;A2without Search Report)
Change: 920715 A2 Inventor (change)
*Assignee: 940622 A2 Applicant (name, address) (change)
Change: 940713 A2 Obligatory supplementary classification
(change)
Examination: 950809 A2 Date of filing of request for examination:
950608
Examination: 951102 A2 Date of despatch of first examination report:
950915
Grant: 970305 B1 Granted patent
Oppn None: 980225 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPAB97	688
CLAIMS B	(German)	EPAB97	639
CLAIMS B	(French)	EPAB97	804
SPEC B	(English)	EPAB97	4970
Total word count - document A			0
Total word count - document B			7101
Total word count - documents A + B			7101

...INTERNATIONAL PATENT CLASS: H04L-012/58 ...

... H04L-012/56

...SPECIFICATION retransmitted. In general, the size of the data entity which must be retransmitted is a function of the protocol of the sending and destination and **terminals** , and is many cells long. Thus, any transmission arrangement which allows an occasional random Asynchronous Transfer Mode (ATM) frame to be lost forces the retransmission...

...is avoided.

Alternative schemes for throttling transmission have been used in other networks. In one such scheme, the size of the queues at the destination **terminal** or at some destination data concentrator is monitored and if the size becomes too great then messages are sent to the sources of the data message to cut back on transmission. The trouble with this type of arrangement is that in a broadband ISDN network, the **transmission rate** is so high that by the time a message is received to lower the **transmission rate** , the queues at the destination have experienced overflow.

In this embodiment each **terminal** may address 255 other **terminals** . The network is limited to interconnecting 256 such **terminals** because only one byte is allocated to identifying the destination **terminal** . In a more general application, the identifying field can be as large as the combination of the ATM address label virtual circuit identifier (VCI) (20 bits) and the message identifier (MID) (14 bits) which would expand the number of possible **terminals** to 234) (16 **billion**), a number far in excess of any conceivable need.

While this description has concentrated on bandwidth as the negotiated resource, other limiting resources, such as memories in the **terminal** adapters, and time to transmit a message can also be negotiated in a similar way. For example, **allocation** of **bandwidth** for a very long message might be deferred if the load is above a threshold.

While in this embodiment, requests are immediately entered in the...

15/5,K/25 (Item 25 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00324366

Bit rate adaptation system for digital transmission systems.

Bitratenadaptationssystem für digitale Übertragungssysteme.

Système d'adaptation de débit binaire pour les systèmes de transmissions numériques.

PATENT ASSIGNEE:

International Business Machines Corporation, (200120), Old Orchard Road,
Armonk, N.Y. 10504, (US), (applicant designated states: DE;FR;GB;IT)

INVENTOR:

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Le Pennec, Jean-Francois, Le Vercors IV 3 Avenue St Maurice, F-06100 Nice
, (FR)

LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 343305 A1 891129 (Basic)

EP 343305 B1 950726

APPLICATION (CC, No, Date): EP 88480013 880429;

PRIORITY (CC, No, Date): EP 88480013 880429

DESIGNATED STATES: DE; FR; GB; IT

INTERNATIONAL PATENT CLASS: H04L-025/36

CITED PATENTS (EP A): EP 68595 A; EP 210798 A

CITED REFERENCES (EP A):

DATA COMMUNICATIONS, vol. 12, no. 6, June 1983, pages 125-136, New York,
US; B.E. COLLIE et al.: "Looking at the ISDN interfaces: issues and
answers"

ELECTRONICS INTERN., vol. 51, no. 4, February 1978, pages 110-113, New
York, US; B. BOWLES et al.: "EPROM achieves nonuniform data-channel
sampling"

PATENT ABSTRACTS OF JAPAN, vol. 7, no. 84 (E-169) 1229 , 8th April 1983;
& JP-A-58 10 945 (SUMITOMO JUKIKAI KOGYO K.K.) 21-01-1983;

ABSTRACT EP 343305 A1

A rate adaptation system for adapting the rate of a communication stream between a first communication device (TE) and a second communication device (NT). The first communication device transmits and receives data at a first given rate and the second communication device transmits and receives data at a second rate higher than said first rate (generally 8, 16, 32 or 64 kbits/s). The rate adaptation system includes, a transmit part (620) which allows the transmission from the first communication device to the second communication device by means of a bit repetition and framing function. The rate adaptation system also includes a receive part (630) which allows the transmission from the second communication device to the first communication device. The invention further includes a first storage (670) which can be addressed by an address bus (640), a data bus (650) and a control bus (660) either by the transmit part (620), or the receive part (630) or by a processor (680) external to the transmit and receive part. A second storage (690) can be addressed by the processor (680). A part of its content, representative of a particular frame structure corresponding to a given bit repetition and frame function, is loaded into the first storage (670) during an initialization period. The transmit part includes means (760) operating after the initialization period, which generates a sequence of values on the address bus (650). In this way, a sequence of data words is extracted from the first storage (670) and is used to control the transmit part. Similarly, the receive part (630) includes means (860) for generating an second sequence of values on data bus (640) at different instants than for the transmit part (620), thus extracting a second sequence of data words from the first storage (670) and used to control the receive part.

ABSTRACT WORD COUNT: 306

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 891129 A1 Published application (A1with Search Report
;A2without Search Report)

Examination: 900425 A1 Date of filing of request for examination:
900224

Examination: 920422 A1 Date of despatch of first examination report:
920310
Change: 921119 A1 Representative (change)
Grant: 950726 B1 Granted patent
Lapse: 960403 B1 Date of lapse of the European patent in a
Contracting State: DE 951027
Oppn None: 960717 B1 No opposition filed
Lapse: 991020 B1 Date of lapse of European Patent in a
contracting state (Country, date): DE
19951027, IT 19950726,

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1305
CLAIMS B	(English)	EPAB95	1293
CLAIMS B	(German)	EPAB95	1181
CLAIMS B	(French)	EPAB95	1367
SPEC A	(English)	EPABF1	9285
SPEC B	(English)	EPAB95	9368
Total word count - document A			10591
Total word count - document B			13209
Total word count - documents A + B			23800

INTERNATIONAL PATENT CLASS: H04L-025/36

...SPECIFICATION future digital network and thus will allow the customer to access large public telecommunications services, telecommunication product suppliers will have to market in large quantities **terminal** adapters TA designed to allow the connection of a wide range of existing data terminal equipments TE2 having different interlaces according to the V. or X. Recommendations. Terminal Adapter TA should use a simple and low **cost** rate adaptation system allowing the conversion of a **stream** having different possible **rates** lower than 64 kbit/s into a 64 kbit/s **stream**. More particularly, this **rate** adaptation device should involve few components in order to limit the manufacturing **costs** while assuring an adaptability of the terminal adapter to a large number of different existing Data Terminating Equipment DTE having different interlaces of the V...

...X. Recommendations. Moreover, the latter rate adaptation system should facilitate the further multiplexing of different streams in order to achieve a good utilization of the **bandwidth** **provided** by a B or D channel.

Summary of the invention

It is an object of the invention to provide a simple rare adaptation system for adapting the **rate** of one **data communication stream**, having a **rate** lower than 64 kbit/s, into a 64 kbit/s channel and to multiplex several **streams**, having **rates** lower than 64 kbit/s, into a single 64 kbit/s channel.

It is an other object of the invention to provide a rate adaptation...

...object of the invention to provide a rate adaptation system for primary rate user network interfaces (cf. Rec. I.431), or for a TE1 data **terminal** equipment.

The objects of the invention are achieved by means of the rate adaptation system of the invention which adapts the rate of a communication...

...SPECIFICATION future digital network and thus will allow the customer to access large public telecommunications services, telecommunication product suppliers will have to market in large quantities **terminal** adapters TA designed to allow the connection of a wide range of existing data terminal equipments TE2 having different interfaces according to the V. or X. Recommendations. Terminal Adapter TA should use a simple and low cost rate adaptation system allowing the conversion of a **stream** having different possible **rates** lower than 64 kbit/s into a 64 kbit/s **stream**. More particularly, this **rate** adaptation device should involve few components in order to limit the manufacturing **costs** while assuring an adaptability of the terminal adapter to a large number of different

existing Data Terminating Equipment DTE having different interfaces of the V...

...X. Recommendations. Moreover, the latter rate adaptation system should facilitate the further multiplexing of different streams in order to achieve a good utilization of the **bandwidth provided** by a B or D channel.

Document Data Communications, Vol. 12, N(degree)6, June 1983, pages 125-136, New York, USA; B.E. Collie...

...at the I.S.D.N. Interfaces: issues and answers" discloses the general processor based architecture of a system which is designed to provide the **rate** adaptation of a **communication** stream between a first communicating device and a second communicating device.

Summary of the invention

It is an object of the invention to provide a simple rate adaptation system for adapting the **rate** of one **data communication stream**, having a **rate** lower than 64 kbit/s, into a 64 kbit/s channel and to multiplex several **streams**, having rates lower than 64 kbit/s, into a single 64 kbit/s channel.

It is an other object of the invention to provide a...

...object of the invention to provide a rate adaptation system for primary rate user network interfaces (cf. Rec. I.431), or for a TE1 data **terminal** equipment.

The objects of the invention are achieved by means of the rate adaptation system of the invention as claimed in claim 1. This system...

15/5,K/55 (Item 29 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00473182 **Image available**

METROPOLITAN WIDE AREA NETWORK

RESEAU URBAIN LONGUE DISTANCE

Patent Applicant/Assignee:

WINSTAR COMMUNICATIONS INC,
ZENDLE Allan M,

Inventor(s):

ZENDLE Allan M,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9904534 A1 19990128

Application: WO 98US15038 19980721 (PCT/WO US9815038)

Priority Application: US 9753210 19970721

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE GH GM HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG

MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ

VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH

CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW

ML MR NE SN TD TG

Main International Patent Class: **H04L-012/28**

International Patent Class: H04Q-007/20

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 9302

English Abstract

A wide area communication network includes at least two hub sites which are interconnected by a communication backbone. Each hub site provides millimeter microwave wireless coverage in at least one sector. At least two remote sites reside in each sector and are coupled to a corresponding hub site via a point to multi point broadband millimeter microwave wireless system. The network preferably includes at least one service node which is accessible to the remote sites via the hub sites and backbone.

French Abstract

L'invention concerne un reseau de communication longue distance comprenant au moins deux sites pivot interconnectes par un reseau de communication de base. Chaque site pivot assure la couverture sans fil a micro-ondes millimetriques d'un secteur au moins. Deux sites distants au moins se trouvant dans chacun des secteurs sont couples a un site pivot correspondant via un systeme sans fil a micro-ondes millimetriques multipoint a bande large. Le reseau comporte, de preference, au moins un noeud de service donnant acces aux sites distants via les sites pivot et le reseau de base.

Main International Patent Class: **H04L-012/28**

Fulltext Availability:

Detailed Description

Detailed Description

... other transmissions on the network.

ATM QOS parameters can be used to provide varying levels of throughput on the network allowing network operators to establish **pricing** to coincide with these levels of throughput. For voice services which are particularly intolerant to the delays inherent in non-sequential cell 3 0 transport. Permanent Virtual Circuits (PVC's) guarantee immediate throughput at predefined data

20

rates . PVC's utilize constant fixed bandwidth in the network each time there is a request for service.

Even though the delays associated with the re...

...which cells are sent sequentially. In essence, a PVC is a circuit switched connection through an ATM network. In fixed wireless point to multipoint networks, **bandwidth** is **allocated** on a full time basis between the subscriber system and the hub for the duration of the voice call.

Other ATM-based services are provisioned using Switched Virtual Circuits (SVC's) which 1 0 **allocate bandwidth** to user transmissions according to a hierarchical priority scheme ranging from guaranteed **data** throughput **rates** to **transport** of **data** on a "capacity available" basis. SVC's most effectively support variable bit **rate** (bursty) **data** services such as LAN communications, with QOS parameters employed to manage throughput in relation to the criticality of the data and the cost of the...

...for data services can take into account the time of day the service was provided, the network resources utilized by the customer (e.g., peak **data rates** , sustained **data rates** , number of packets/bytes transferred), Quality of Service 2 0 provided, number of packets dropped due to congestion or other network transmission errors, and other factors

...

...to-multipoint networks can support a host of personal 3 0 computing applications with wireless broadband connectivity, including personal digital assistants,

21

hand-held Web **terminals** and campus-wide mobile LANs.

While the present system has been described with respect to the preferred embodiments, it will be understood by those skilled...

15/5,K/60 (Item 34 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00405238 **Image available**

DYNAMIC ALLOCATION OF DATA TRANSMISSION RESOURCES

AFFECTATION DYNAMIQUE DE RESSOURCES DE TRANSMISSION DE DONNEES

Patent Applicant/Assignee:

MCI COMMUNICATIONS CORPORATION,

Inventor(s):

SHERMAN Frederick A,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9745982 A1 19971204

Application: WO 97US9405 19970530 (PCT/WO US9709405)

Priority Application: US 96660686 19960531

Designated States: AU CA JP MX AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL
PT SE

Main International Patent Class: H04L-012/28

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 5300

English Abstract

A system (102) and method for dynamically provisioning digital data services (112). Connection setup for the digital data services (112) is accomplished through messages (202) transported on a common channel signalling network. These messages (202) permit an originating user (106a) to automatically provision a data communications connection that has a dynamically adjustable bandwidth.

French Abstract

L'invention concerne un systeme (102) et un procede permettant des prestations dynamiques de services dans un reseau a multiplexage temporel sur support numerique (112). L'etablissement de connexions pour lesdites prestations de services en reseau a multiplexage (112) s'effectue par transmission de messages (202) qu'on achemine par un reseau de signalisation par canal semaphore. Ces messages (202) permettent a un utilisateur de depart (106a) d'obtenir automatiquement un branchement de transmission de donnees disposant d'une bande passante pouvant etre reglee de facon dynamique.

Main International Patent Class: H04L-012/28

Fulltext Availability:

Detailed Description

Detailed Description

... complete

communications path to transfer data.

As noted above, one of the features of the present invention is the ability for a user to dynamically **allocate** the **bandwidth** in the connection to meet changing communication needs. This control ensures that the user will **pay** a service **provider** only for the **bandwidth** that is actually used.

In one example, the originating user may require an increase in **bandwidth**. The **provisioning** of additional **bandwidth** to an existing connection closely parallels the process described above. The same sequence of messages 202-222 is used. Instead of specifying all of the...

...106c to

accommodate the additional bandwidth, the connection between CPEs 106a and 106c is maintained. This feature further aids the seamless nature in which high **rate data** services are provisioned.

Alternatively, the originating user may require a decrease in bandwidth or the termination of all the bandwidth in the existing connection. This ...

...messages

232-250 operate to remove existing connections between one or more incoming and outgoing channels.

In one embodiment, the invention is directed to a **computer** system operating as discussed herein. An exemplary **computer** system 502 is

shown in
FIG. 5. The **computer** system 502 includes one or more processors, such
as
processor 504. The processor 504 is connected to a communication bus 506.

The computer system 502...

15/5,K/61 (Item 35 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00396715

COMMUNICATION SERVER APPARATUS AND METHOD
APPAREIL ET PROCEDE DE SERVEUR DE COMMUNICATION

Patent Applicant/Assignee:

NETSPEED INC,

Inventor(s):

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SISK James R,
LOCKLEAR Robert H Jr,
MCCULLOUGH Jason,
HALL Clifford L,
HAM Ronald E,
BREWER William K,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9737458 A2 19971009

Application: WO 97US5173 19970328 (PCT/WO US9705173)

Priority Application: US 96625769 19960329; US 97781441 19970110; US
97781444 19970110; US 97781450 19970110; US 97781482 19970110

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN

MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN YU GH KE

LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR

IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: H04M-011/06

International Patent Class: **H04L-12:64**

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 22072

English Abstract

A communication system (10) includes a number of subscribers (12) coupled to a station (14) using twisted pair subscriber line (16). In one embodiment, the station (14) includes a telephone switch (56) that provides telephone service to the subscriber (12), and a communication server (58) having a number of XDSL modems (160) that provide data service to the subscriber (12). The communication server (58) allows over subscription of data service to subscribers (12).

French Abstract

La presente invention concerne un systeme de communication (10) ou un certain nombre d'abonnes (12) sont couples a une station (14) via une ligne d'abonne (16) en paire torsadee. Selon une realisation, la station (14) comporte un commutateur telephonique (56) capable d'offrir le service telephonique a un abonne (12), ainsi qu'un serveur de communication (58) equipe de modems en technologie XDLS (160) assurant un service de donnees a l'abonne (12). Ce serveur de communications (58) offre aux abonnes ordinaires (12) la possibilite de disposer egalement d'un abonnement de service de donnees.

International Patent Class: **H04L-12:64**

Fulltext Availability:

Detailed Description

Detailed Description

... any other suitable communication network.

One important technical advantage of the present invention is the ability to over-subscribe the XDSL communication facilities of communication server 58 to service an increasing number of subscribers 12 in communication system 10. Communication server 58 may couple to the same number and type of...

...subscribers 12 desire access to data service, the XDSL communication capabilities of splitter 50 and communication server 58 may be supplemented in a modular and cost effective manner to meet the demand.

Communication system 10 supports data service over subscriber lines 16 using asymmetric digital subscriber line (ADSL), symmetric digital subscriber line (SDSL), high-speed digital subscriber line (HDSL), very high speed digital subscriber line (VDSL), or any other suitable technology that allows high rate data service over twisted pair wiring that forms the local loops to subscribers 12. All of these technologies are referred to collectively as XDSL or communication protocol...

...16 may be performed using the carrier-less amplitude phase modulation (CAP) technique developed by AT&T Corporation.

In an ADSL communication system, the downlink data rate 32 from station 14 to subscriber 12 is greater than the uplink data rate 34 from subscriber 12 to station 14.

This allows high bandwidth communication to subscriber 12, while still providing lower bandwidth communication ...multimedia, and Internet access, that transfer large volumes of information to subscriber 12 in response to shorter requests for information. In one specific embodiment, downlink data rate 32 is approximately 1.5 Mbps, whereas uplink data rate 34 is approximately 750 kbps. In other embodiments, downlink data rate 32 may be six Mbps or more depending on the specific XDSL technology employed, the quality and length of subscriber line 16, and the contribution...

15/5,K/63 (Item 37 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00355469 **Image available**

VIDEO PEDESTAL NETWORK

RESEAU VIDEO A CONCENTRATEUR

Patent Applicant/Assignee:

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RAO R Padmanabha,
SICCARDO Paolo L,
LEVESQUE Gilbert,

Inventor(s):

RAO R Padmanabha,
SICCARDO Paolo L,
LEVESQUE Gilbert,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9637983 A1 19961128

Application: WO 96US7105 19960516 (PCT/WO US9607105)

Priority Application: US 95451264 19950526; US 95568605 19951205

Designated States: CA JP KR US AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL

✓
PT SE

• Main International Patent Class: H04L-005/16

International Patent Class: H04B-01:38; H04H-01:00; H04H-01:08; H04N-07:10

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 16767

English Abstract

An architecture (200) for distributing digital information to subscriber units (202) wherein selection from among multiple digital services is accomplished by transmitting a tuning command from a subscriber unit to an intermediate interface (206). The intermediate interface (206) selects the desired service from a broadband network and transmits it to the subscriber unit (202) over a bandwidth-constrained access line. The bandwidth-constrained access line may be implemented with existing infrastructure, yet the subscriber unit (202) may access a wide variety of digital information available on the broadband network. Universal broadband access is thus provided at low cost. Output bandwidth of broadcast equipment may also be optimized.

French Abstract

Cette invention concerne une architecture (200) de repartition d'informations numeriques a des unites d'abonnees (202), dans laquelle la selection parmi plusieurs services numeriques se fait par la transmission d'un signal d'accord depuis une unite d'abonnee (202) vers une interface intermediaire (206). Cette interface intermediaire (206) selectionne le service voulu dans un reseau a bande large et le transmet a l'unite d'abonnee (202) par l'intermediaire d'une ligne d'accès contrainte par largeur de bande. Cette ligne d'accès contrainte par largeur de bande peut être mise en place a l'aide des infrastructures existantes, ce qui n'empêche par l'unite d'abonnee (202) d'avoir accès a une gamme importante d'informations numeriques disponibles sur le reseau a bande large. On peut ainsi obtenir a faible cout un accès universel par bande large. La largeur de bande de sortie des installations de diffusion peut également être optimisée.

Main International Patent Class: H04L-005/16

Fulltext Availability:

Detailed Description

Detailed Description

... a two-level

network. At the higher level,, optical fibers are used to distribute digital information to a plurality of Cable Headends or Host Digital **Terminals** (HDT), Each Headend or HDT in turn distributes information to multiple hybrid fiber coaxial cables, each of which serves several hundred subscriber units in a...

...shared by multiple

subscriber units by employing Time Division Multiplexing (TDM). Again, for those network providers that do not already have such an infrastructure installed, **costs** are prohibitive because coaxial cable must be brought to each home, Furthermore, the use of TDM coupled with highly limited **bandwidth** **gives** rise to a large latency in the return channel.

Network security is another drawback of the HFC architecture as several users share a single coaxial advantage of the existing telephone network by using ADSL technology to **transfer** high **data rate information**, such as video, over existing telephone company twisted pair lines to subscriber premises. optical fiber may be used to transfer digital information to the telephone...

...connection with each subscriber. Such an

architecture is commonly referred to as Fiber-To-The-Building (FTTB), The disadvantage of this approach is that ADSL **provides** insufficient **bandwidth** * Most current ADSL trials carry only 1.5 or 2 Mb/s over twisted pair. Laboratory demonstrations have shown that in the next few years **cost** effective solutions that provide up to 25 Mb/s may be possible, but even this would be insufficient to provide a broadcast or NVOD service...

...fiber.

Prior art digital data delivery schemes that use relatively narrow bandwidth connections to the subscriber premises require point-to-point sessions between the ultimate **server** and subscriber unit. This is because the narrow bandwidth link that is closest to the subscriber permits only a point-to-point connection if the desired service quality is expected to be reasonable, These point-to-point sessions waste bandwidth since the **server** must separately transmit to multiple subscriber units requesting the same program. If the user wishes to switch channels, there is significant extra latency resulting from...the network in addition to point-to-point interactive services. The broadcast services may be offered without requiring multiple point-to-point sessions from the **server** to each requesting subscriber unit.

Instead, a single copy of a digital stream provided via the broadband link is sufficient to service multiple subscriber units...

...links necessary to continuously transmit each available program to each subscriber unit. Thus digital broadcast and NVOD services may be provided effectively and at low **cost** *

In accordance with one aspect of the present invention, a conventional telephone network is enhanced to **provide** universal high **bandwidth** digital service. Typically, telephone service is provided to subscriber premises via individual access lines extending from the subscriber premises to a neighborhood hub or pedestal, The access lines are private and secure twisted pair lines, The pedestal is fed by a high **data - rate** trunk line, typically implemented as a fiber optic connection.

16/5,K/10 (Item 10 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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00998862

Method and system for providing global variable data rate connectivity in a
satellite-based communications network

Verfahren und Anordnung zur Herstellung weltweiter Verbindung fur
veranderbare Datengeschwindigkeiten in einem Satelliten-Kommunikationsn
etz

Procede et systeme pour assurer une connectivite globale pour donnees a
debits variables dans un reseau de communication par satellites

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

Otten, Hajo, Dr.-Ing. et al (75074), Witte, Weller & Partner
Patentanwalte, Rotebuhlstrasse 121, 70178 Stuttgart, (DE)

PATENT (CC, No, Kind, Date): EP 902553 A2 990317 (Basic)
EP 902553 A3 020904

APPLICATION (CC, No, Date): EP 98116295 980828;

PRIORITY (CC, No, Date): US 928886 970912

DESIGNATED STATES: DE; FR; GB

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: H04B-007/212; H04B-007/185

ABSTRACT EP 902553 A2

A method for providing global variable data rate connectivity in a
satellite-based communications network is described. The network includes
communications satellites (12) for transmitting and receiving signals in
a plurality of coverage areas (14) and further user terminals (18) for
transmitting and receiving signals to and from the satellites (12). A
variable bandwidth is assigned to a first set of user terminals (18)
located in one of the plurality of coverage areas (14) and associated
with one of the satellites (12) based on the collective bandwidth
requirements of each of the first set of the user terminals (18). A
respective system for providing global variable data rate connectivity is
also described.

ABSTRACT WORD COUNT: 112

NOTE:

Figure number on first page: 5

LEGAL STATUS (Type, Pub Date, Kind, Text):

Change: 020904 A2 International Patent Classification changed:
20020715

Application: 990317 A2 Published application (Alwith Search Report
;A2without Search Report)

Examination: 040102 A2 Date of dispatch of the first examination
report: 20031117

Examination: 030402 A2 Date of request for examination: 20030205

Search Report: 020904 A3 Separate publication of the search report

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9911	957
SPEC A	(English)	9911	3004
Total word count - document A			3961
Total word count - document B			0
Total word count - documents A + B			3961

...SPECIFICATION monitor and control only.

Each of the user terminals 18 belong to at least one network. A network
may consist of a plurality of user **terminals** 18 in a plurality of
coverage areas 14 dispersed throughout the world, or may only have a
plurality of user terminals 18 located in one...and fluctuates. At any

time, the flat rate service can be adjusted to accommodate frequent "on-demand" requests which can be folded into the flat **rate service**.

The network user may dynamically **apportion** the prepurchased **bandwidth** within their network any way they desire. For example, a 2 Mbps segment can be distributed dynamically to 16 sites @ 128 Kbps, 8 sites @ 256...

...prior notification to DOC 20. Upon approval by the DOC 20, the DOC 20 sends command strings to the affected terminals 18 to reconfigure the **data rate** of the affected terminals 18.

The users have the ability to request a bandwidth change at anytime, anywhere from their prepurchased bandwidth segment (flat rate) or on an as-needed basis (on-demand). The DOC 20 **provides bandwidth** adjustments in one of two ways. First, the additional bandwidth is taken from idle capacity, i.e., one region is not utilizing all the **bandwidth assigned** thereto (flat rate) Otherwise, the user may purchase additional bandwidth from the DOC 20 (on-demand). Users may purchase this additional bandwidth utilizing full duplex capabilities from 64 Kbps to the maximum allowable **data rate** for the given terminal in small increments such as 64 Kbps. Changes to the terminal **data rates** can be performed via scheduled changes or by informing the DOC 20 as needed.

Thus, the DOC 20 controls all aspects of the communications. Terminal channel speed, **data rate**, carrier power, carrier frequency and terminal activation commands are issued from the DOC 20. Remote monitoring of terminal integrity is also performed by the...

...are handled by the DOC 20, which will then arrange adjustments to existing location communications. The DOC 20 also manages space communications, terrestrial communications and **terminal** charges.

The system 10 of the present invention gives the users the ability to vary the data rate capabilities of their network or individual **terminals** with full duplex capabilities. A concept drawing illustrating the features of the present invention is shown in Figure 5. For illustrative purposes, the present invention...

...by the user terminals 18.

The system 10 operates ideally in a bandwidth limited mode, i.e., the satellite operating characteristics are restricted by the **bandwidth assigned**. The transmission to and from the satellite function according to the limits of the bandwidth (or **data rate**). This is the nominal configuration which sizes the terminals for the appropriate **data rates**. However, there may be unique requirements that may place a connection in power limited operations and requires more satellite power to operate a terminal than...

...global sharing is provided by enabling the user to distribute their bandwidth globally any way they wish, and is guaranteed for their use and for **data rate** changes within the region. Due to the system's global aggregate distribution, the user may move their capacity to another region outside of the existing satellite coverage.

Second, dynamic distribution is possible by allowing the user to dynamically **apportion bandwidth** within their network any way they desire. For example, a 2 Mbps segment can be distributed dynamically to 16 sites @ 128 Kbps, 8 sites @ 256...

...on demand is also possible since the users have the ability to request a bandwidth change at anytime, anywhere from their prepurchased bandwidth segment (flat **rate service**) or in increments outside their prepurchased bandwidth segment (on-demand service). Users may select full duplex capabilities from 64 Kbps to a maximum allowable **data rate** for the given terminal in small increments such as 64 Kbps. Changes to the terminal **data rates** can be performed via scheduled changes or informing the DOC either through satellite communications or the PSTN.

The system of the present invention is...a satellite-based communications network includes a plurality of communications satellites 12 for transmitting and receiving signals in a plurality of coverage areas 14. User **terminals** 18 transmit and receive signals to and from the satellites 12. A set of the user terminals 18 located in one of the coverage areas...

16/5,K/14 (Item 14 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00857111

Video compression method and system

Verfahren und System zur Videokompression

Procede et systeme pour la compression video

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 790741 A2 970820 (Basic)
EP 790741 A3 000531

APPLICATION (CC, No, Date): EP 96307760 961025;

PRIORITY (CC, No, Date): US 5971 951027; US 5970 951027; US 8029 951027

DESIGNATED STATES: DE; FR; GB; IT; NL

INTERNATIONAL PATENT CLASS: H04N-007/26; H04N-007/66; H03M-013/00;
H04N-007/30

ABSTRACT EP 790741 A2

A video compression method and system including object-oriented compression plus error correction using decoder feedback. More particularly error correcting apparatus comprising a first decoder having a deinterleaver coupled to an output thereof. A second decoder coupled to the output of the deinterleaver and a memory coupled to the first decoder. A feedback device is coupled to the second decoder and the memory, and includes an output connected to the deinterleaver. The second decoder is capable of correcting errors in a codeword and correcting errors of related codewords in the memory. Constantly errors in the deinterleaver for codewords for the second decoder are corrected.

ABSTRACT WORD COUNT: 104

NOTE:

Figure number on first page: 15A 15B

LEGAL STATUS (Type, Pub Date, Kind, Text):

Change: 000531 A2 International Patent Classification changed:
20000413

Application: 970820 A2 Published application (Alwith Search Report
;A2without Search Report)

Examination: 010124 A2 Date of request for examination: 20001130

Search Report: 000531 A3 Separate publication of the search report

Change: 981230 A2 Representative (change)

Change: 990630 A2 Obligatory supplementary classification
(change)

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9708W3	987
SPEC A	(English)	9708W3	11404
Total word count - document A			12391
Total word count - document B			0
Total word count - documents A + B			12391

...SPECIFICATION opposite direction and a third or more receivers and transmitters could be connected into the system. The video and speech are separately compressed and the **allocation** of transmission channel **bandwidth** between video and speech may be dynamically adjusted depending upon the situation. The **costs** of telephone network bandwidth demand a low-bit- **rate transmission** . Indeed, very-low-bit-rate video

compression finds use in multimedia applications where visual quality may be compromised.

Figure 2 shows a first preferred embodiment...

...of video images of the scene (for example, 30 frames a second with each frame 176 by 144 8-bit monochrome pixels) so that the **data transmission rate** from compressor 208 to storage 210 may be very low, for example 22 Kbits per second, while retaining high quality images. System 200 relies on...

...low data rate enables simple transmission channels from cameras to monitors and random access memory storage such as magnetic hard disk drives available for personal **computers**. Indeed, a single telephone line with a modem may transmit the compressed video image stream to a remote monitor. Further, storage of the video image...

16/5,K/17 (Item 17 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00742540

Video media streamer

Mediastreamer fur Video

Media streamer pour video

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PATENT (CC, No, Kind, Date): EP 701371 A1 960313 (Basic)

EP 701371 B1 000419

APPLICATION (CC, No, Date): EP 95305964 950825;

PRIORITY (CC, No, Date): US 302625 940908

DESIGNATED STATES: AT; BE; CH; DE; ES; FR; GB; IT; LI; NL; SE

INTERNATIONAL PATENT CLASS: H04N-007/173

CITED PATENTS (EP B): EP 368683 A; EP 535807 A; EP 605115 A; WO 94/01964 A; CA 2117422 A; US 5027400 A; US 5166926 A

CITED REFERENCES (EP B):

IEEE COMMUNICATIONS MAGAZINE, vol.32, no.5, May 1994, PISCATAWAY, NJ US pages 82 - 88, XP000451098 D. DELODDERE 'Interactive Video on Demand';

ABSTRACT EP 701371 A1

A media streamer (10) includes at least one storage node (16, 17) for storing a digital representation of a video presentation. The video presentation requires a time T to present in its entirety, and is stored as a plurality of N data blocks, each data block storing data corresponding approximately to a T/N period of the video presentation. The media streamer further includes a plurality of communication nodes

(14) each having at least one input port and at least one output port; a circuit switch (18) connected between the at least one storage node and input ports of the plurality of communication nodes, the circuit switch selectively coupling one or more of the input ports to the at least one storage node to enable the digital representation stored thereat to appear at one or more of the output ports; and at least one control node (18) coupled at least to the plurality of communication nodes and to the at least one storage node for enabling any one of the N blocks to appear at any output port of any of the plurality of communication nodes. (see image in original document)

ABSTRACT WORD COUNT: 212

NOTE:

Figure number on first page: 1

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Grant: 20000419 B1 Granted patent
Lapse: 020109 B1 Date of lapse of European Patent in a contracting state (Country, date): AT 20000419, BE 20000831, SE 20000719,
Oppn None: 010404 B1 No opposition filed: 20010120
Lapse: 010627 B1 Date of lapse of European Patent in a contracting state (Country, date): AT 20000419, SE 20000719,
Application: 960313 A1 Published application (A1with Search Report ;A2without Search Report)
Examination: 961023 A1 Date of filing of request for examination: 960827
Examination: 980923 A1 Date of despatch of first examination report: 980810
Change: 990811 A1 Title of invention (German) changed: 19990622
Change: 990811 A1 Title of invention (English) changed: 19990622
Change: 990811 A1 Title of invention (French) changed: 19990622

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

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CLAIMS B	(English)	200016	779
CLAIMS B	(German)	200016	680
CLAIMS B	(French)	200016	977
SPEC B	(English)	200016	20743
Total word count - document A			0
Total word count - document B			23179
Total word count - documents A + B			23179

...SPECIFICATION committee under the auspices of the International Standards Organization that is defining a proposed universal standard for digital compression of still images for use in **computer** systems.
KB KILO BYTES: 1024 bytes.
LAN LOCAL AREA NETWORK: High-speed transmission over twisted pair, coax, or fibre optic cables that connect **terminals**, **computers** and peripherals together at distances of about a mile or less.
LRU LEAST RECENTLY USED
MPEG MOVING PICTURE EXPERTS GROUP: A working committee under the...

...and is in use. MPEG-2 will be the next standard and will support digital, flexible, scalable video transport. It will cover multiple resolutions, bit **rates** and **delivery** mechanisms.
MPEG-1, MPEG-2 See MPEG
MRU MOST RECENTLY USED
MTNU MOST TIME TO NEXT USE
NTSC format NATIONAL TELEVISION STANDARDS COMMITTEE: The colour...

...standard in the United States and Japan.
PAL format PHASE ALTERNATION LINE: The colour television format that is the standard for Europe except for France.
PC PERSONAL **COMPUTER** : A relatively low **cost computer** that can be

used for home or business.

RAID REDUNDANT ARRAY of INEXPENSIVE DISKS: A storage arrangement that uses several magnetic or optical disks working in tandem to increase **bandwidth** output and to **provide** redundant backup.

SCSI SMALL **COMPUTER** SYSTEM INTERFACE: An industry standard for connecting peripheral devices and their controllers to a **computer**.

SIF SOURCE INPUT FORMAT: One quarter the CCIR 601 resolution.

SMPTE SOCIETY OF MOTION PICTURE & TELEVISION ENGINEERS.

SSA SERIAL STORAGE ARCHITECTURE: A standard for connecting peripheral devices and their controllers to **computers**. A possible replacement for SCSI.

T1 Digital interface into the telephone network with a bit rate of 1.544 Mb/sec.

TCP/IP TRANSMISSION CONTROL PROTOCOL/INTERNET PROGRAM: A set of protocols developed by the Department of Defense to link dissimilar **computers** across networks.

VHS VERTICAL HELICAL SCAN: A common format for recording analog video on magnetic tape.

VTR VIDEO TAPE RECORDER: A device for recording video on magnetic tape.

VCR VIDEO CASSETTE RECORDER: Same as VTR.

A. GENERAL ARCHITECTURE

A video optimized stream **server** system 10 (hereafter referred to as media streamer) is shown in Fig. 10 and includes four architecturally distinct components to provide scalability, high availability and...the sum of all the streams that can be played simultaneously from the videos already stored in the group.

The calculation is done in control **node** 18 at the time the video data is loaded into the media streamer 10. In the simplest case all disks will be in a single...

...support a given number of simultaneous streams is calculated from the formula $m \cdot r / d$, where m is the number of streams, r is the **data rate** for a **stream**, and d is the effective **data rate** for a disk. Note that if the streams can be of different rates, then $m \cdot r$, in the above formula, should be replaced by: Max (sum of the **data rates** of all simultaneous **streams**).

The result of using this technique for writing the data is that the data can be read for delivering many **streams** at a specified **rate** without the need for multiple copies of the digital representation of the video ...interfere with the reading of another part of the file for delivering another stream.

I. MEDIA STREAMER DATA TRANSFERS AND CONVERSION PROCEDURES

I.1. DYNAMIC **BANDWIDTH ALLOCATION** FOR VIDEO DELIVERY TO THE SWITCH 18

Conventionally video servers generally fit one of two profiles. Either they use PC technology to build a low **cost** (but also low bandwidth) video server or they use super-computing technology to build a high bandwidth (also expensive) video server. A object of this invention then is to deliver high bandwidth video, but without the high **cost** of super-computer technology.

A preferred approach to achieving high bandwidth at low **cost** is to use the low latency switch (crossbar circuit switch matrix) 18 to interconnect low cost PC based "nodes" into a video server (as shown...

...real time bandwidth allocation capability of a low-cost switch technology.

Fig. 18 shows a conventional logical connection between a switch interface and a storage **node**. The switch interface must be full duplex (i.e., information can be sent in either direction simultaneously) to allow the transfer of video (and control...

00725444

SECTORIZED MULTI-FUNCTION CELLULAR RADIO COMMUNICATION SYSTEM
SEKTORISIERTES MEHRZWECK CELLULARES FUNKUBERTRAGUNGSSYSTEM
SYSTEME DE RADIO COMMUNICATION MULTI-FONCTIONS A REPARTITION SECTORIELLE
PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 750827 A1 970102 (Basic)

EP 750827 B1 000426

WO 9525409 950921

APPLICATION (CC, No, Date): EP 95913997 950316; WO 95US2977 950316

PRIORITY (CC, No, Date): US 210404 940317

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; MC;
NL; PT; SE

EXTENDED DESIGNATED STATES: LT; SI

RELATED DIVISIONAL NUMBER(S) - PN (AN):

(EP 99118162)

INTERNATIONAL PATENT CLASS: H04Q-007/36; H04Q-007/20; H04H-001/00

CITED PATENTS (EP B): EP 179612 A; EP 201254 A; EP 361299 A; WO 91/06162 A;

WO 93/23935 A; DE 2659638 A; GB 2261575 A; US 4785450 A

CITED REFERENCES (EP B):

AT & T TECHNOLOGY, vol. 5, no. 4, NEW YORK, US, pages 20-25, HARDY ET AL.

'New AUTOPLEX Cell Site Paves The Way For Digital Cellular
Communications';

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No A-document published by EPO

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contracting state (Country, date): AT
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Grant: 20000426 B1 Granted patent

Lapse: 031105 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
20000426, BE 20000426, CH 20000426, LI
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20000426, PT 20000726, SE 20000726,

Lapse: 020626 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
20000426, BE 20000426, CH 20000426, LI
20000426, ES 20000426, PT 20000726, SE
20000726,

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20000426, BE 20000426, PT 20000726, SE
20000726,

Oppn None: 010411 B1 No opposition filed: 20010127

Lapse: 010418 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
20000426, BE 20000426, PT 20000726,

Lapse: 020109 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
20000426, BE 20000426, CH 20000426, LI
20000426, PT 20000726, SE 20000726,

Lapse: 030219 B1 Date of lapse of European Patent in a
contracting state (Country, date): AT
20000426, BE 20000426, CH 20000426, LI
20000426, ES 20000426, NL 20000426, PT
20000726, SE 20000726,

Application: 951129 A International application (Art. 158(1))
 Application: 970102 A1 Published application (A1with Search Report
 ;A2without Search Report)
 Examination: 970102 A1 Date of filing of request for examination:
 960930
 Change: 970507 A1 Inventor (change)
 Examination: 971203 A1 Date of despatch of first examination report:
 971016
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 (Article 76) changed: 19990920

LANGUAGE (Publication,Procedural,Application): English; English; English

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CLAIMS B	(English)	200017	429
CLAIMS B	(German)	200017	435
CLAIMS B	(French)	200017	578
SPEC B	(English)	200017	16358

Total word count - document A 0

Total word count - document B 17800

Total word count - documents A + B 17800

...SPECIFICATION be possible to eliminate most calls for emergency repairs on the antenna arrays, and ensure maximum continuity of the service.

A second function for the **node** controller 32 in the Level 2 System 108 would be that of providing security for the signals transmitted from the **node**, by performing block scrambling using frequency-hopping techniques. The CIU controller 114 would unscramble the transmission by making use of a secret code stored in its memory, as described elsewhere.

Still another level of functionality would involve the joint operation of the **node** and CIU controllers to perform positive interdiction services, inhibiting the ability of the customer to access unauthorized programming on a channel-by-channel basis.

Level...

...32. This design supports applications such as video on demand. With the narrowband return channel used to select programming, request information, and place orders for **pay**-per-view services.

Performance of these functions requires of intelligence at both the controller 32 and at the CIU 44. The CIU controller 114 accepts...

...reserved for the purpose. When its polling address is received, the CIU controller 114 transmits this stored information over the shared channel faction by the **node**. Relatively little data must be sent to specify a request. Accordingly, the **data rate** on the shared channel can be low-- typically from 16 KBPS to as much as 1 MBPS, if many CIUs 44 are expected to participate...

...112 and seize control.

The spectrum efficiency of the shared channel 112 may be designed to be very low, in order to achieve a low **cost** implementation. As only one channel is involved, **assigning** extra **bandwidth** does not significantly affect system capacity.

Upon receipt of a service request, the controller 32 can perform a number of useful functions. These might include...

...a request by examining a code transmitted from the CIU 44;

Providing program information and navigation assistance, using a data base downloaded periodically from the **server** centers 96;

Advertising coming attractions and commercial products, and accepting orders to upgrade service or to receive specific offerings such as pay-per-view programs...

...billing office; and

Reporting failures in individual wireless loops or CIUs 44.

By monitoring the strength of the signal received from each CIU 44, the **node** controller 32 can undertake to control its output power in a sector-by-sector basis, in order to improve system performance during

conditions of heavy...

16/5,K/21 (Item 21 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00690318

OPTICAL FIBRE MANAGEMENT SYSTEM
FASEROPTISCHES VERTEILERSYSTEM
SYSTEME D'AGENCEMENT DE FIBRES OPTIQUES
PATENT ASSIGNEE:

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AT;BE;CH;DE;DK;ES;FR;GB;GR;IE;IT;LI;LU;NL;PT;SE)

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PATENT (CC, No, Kind, Date): EP 717857 A1 960626 (Basic)

EP 717857 B1 980121

WO 9507475 950316

APPLICATION (CC, No, Date): EP 94925581 940908; WO 94GB1956 940908

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DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; NL;
PT; SE

INTERNATIONAL PATENT CLASS: G02B-006/00; G02B-006/44;

NOTE:

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Lapse:	000517 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19980121, GR 19980121, IE 19980908, LU 19980930,
Lapse:	20000202 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19980121, GR 19980121, LU 19980930,
Lapse:	031105 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19980121, DK 19980421, GR 19980121, IE 19980908, LU 19980930,
Application:	950621 A	International application (Art. 158(1))
Lapse:	20000216 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19980121, GR 19980121, LU 19980930,
Application:	960626 A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	960626 A1	Date of filing of request for examination: 960215
Examination:	960904 A1	Date of despatch of first examination report: 960716
Grant:	980121 B1	Granted patent
*Assignee:	980422 B1	Proprietor of the patent (transfer of rights): BRITISH TELECOMMUNICATIONS public limited company (846100) 81 Newgate Street London EC1A 7AJ (GB) (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IE;IT;LI;LU;NL;PT;SE)
*Assignee:	980422 B1	Previous applicant in case of transfer of rights (change): British Telecommunication Public Limited Company (1929680) 81 Newgate Street London EC1A 7aj (GB) (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IE;IT;LI;LU;NL;PT;SE)

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Oppn None: 990113 B1 No opposition filed
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FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9804	1211
CLAIMS B	(German)	9804	1127
CLAIMS B	(French)	9804	1341
SPEC B	(English)	9804	7345
Total word count - document A			0
Total word count - document B			11024
Total word count - documents A + B			11024

...SPECIFICATION by BT's local loop optical field trial (LLOFT) at Bishop's Stortford.

In summary, the use of splitter based PON architecture will reduce the **cost** of fibre deployment in the access network. When compared with point-to-point fibre, savings will result from:

- (i) reducing the number of fibres at the exchange and in the network;
 - (ii) reducing the amount of **terminal** equipment at the exchange;
 - (iii) sharing the **cost** of equipment amongst a number of customers;
 - (iv) providing a thin, widespread, low **cost** , fibre infrastructure;
- and

(v) providing a high degree of flexibility, and allowing 'just in-time' equipment and service provision.

Additionally, PON architecture can be tailored...

...By transmitting at other wavelengths, other services, such as broadband access for cable television and high definition television, or business services, such as high bit **rate data** , video telephony or video conferencing, can be **provided** . The huge **bandwidth** potential of fibre promises virtually unlimited capacity for the transparent network. Eventually, it will be possible to transmit hundreds of wavelengths simultaneously, as the development...

16/5,K/52 (Item 29 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00565305 **Image available**

SATELLITE SYSTEM
SYSTEME A SATELLITES

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NOVAK John III,
WANG Arthur W,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200028678 A1 20000518 (WO 0028678)

Application: WO 99US26147 19991104 (PCT/WO US9926147)

Priority Application: US 98440 19981109

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Main International Patent Class: H04B-007/185

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 3677

English Abstract

A satellite communication system (10) has a first deployment of a

plurality of satellites (12) deployed in a medium earth orbit and later deployments of a plurality of satellites (12) deployed in the medium earth orbit. The first deployment is spaced so that the second deployment may be easily deployed and interleaved into the first deployment. A ground terminal is used for communicating with the satellites in the first and second deployments.

French Abstract

L'invention concerne un systeme a satellites de communications (10) comportant un premier deploiement d'une pluralite de satellites (12) places sur orbite moyenne et des deploiements ulterieurs d'une pluralite de satellites (12) places sur orbite moyenne. Le premier deploiement est espace de sorte que le deuxieme deploiement puisse etre facilement deploye et imbrique dans le premier deploiement. Une station au sol est utilisee pour communiquer avec les satellites dans les premier et deuxieme deploiements.

Fulltext Availability:

Detailed Description

Detailed Description

... system, several disadvantages are apparent.

In the known system, each satellite is deployed in its position individually. One drawback to individual launches is the high **cost** associated with each launch.

Another drawback is that the system is not easily adaptable to increasing demand. Individual launches must be used to provide increased coverage.

Data rates up to 19.2 kbps, as available from wireless WANs, will not meet future **data rate** needs of consumers. For example, many **computer** users are upgrading their wired modems to 56.6 kbps whenever possible. Such users desire a fast response from their modems even while they are...

...short, text-based

electronic mail messages to communications with embedded video clips, Such media-rich messages consume high bandwidth and communications resources, thus requiring high **data rates** to allow them to be transmitted and received within a reasonable period of time.

Furthermore, a tremendous growth in Internet traffic has caused a strain on the capacity of telephony networks. Network shortcomings include network outages, insufficient access bandwidth, and insufficient internode **bandwidth**. Currently, **providers** need to make significant investments, as well as experience installation delays, to upgrade SUBSTITUTE SHEET (RULE26) network infrastructure, yet they cannot Pass the **costs** on to the end users.

Corporate LANs/WANs also generate an insatiable demand for higher bandwidth. The demand for bandwidth goes up as more and more users are connected. The users, in turn, demand more services and improved network speed. Personal **computers** are being used to process not only text, but graphics and video as well, all on networks that are increasingly global. Widespread implementation of corporate intranets and extranets further drive the move to increased bandwidth applications. High-speed networking is also driven by the growth of video distribution, **client / server** technology, decentralized

systems, increased processing power and developments in storage capacity.

Fixed service demand such as satellite news broadcast, distance learning, and military functions are...

16/5,K/53 (Item 30 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00556362 **Image available**

TELECOMMUNICATION SERVICES
SERVICES DE TELECOMMUNICATIONS

Patent Applicant/Assignee:

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Patent and Priority Information (Country, Number, Date):

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Application: WO 99CA873 19990924 (PCT/WO CA9900873)
Priority Application: US 98101857 19980925; CA 2264407 19990304

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK
DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
TR TT TZ UA UG US UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ
BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT
SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

Main International Patent Class: H04Q-003/00

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 13081

English Abstract

The present invention relates generally to telecommunications, and more specifically to a method and system of providing telecommunication services that is flexible and efficient. Existing Public Switched Telephone Network systems suffer from a number of problems including system complexity, access being proprietary and services being implemented on fixed hardware. As a result, new services are complex and costly to develop, so telcos only provide services that appeal very broadly. The invention provides an open and flexible system by describing communications in terms of graph packets which contain pointers to blocks of software code, rather than containing large blocks of executable code. In the preferred embodiment, these graphs identify software filters which are dedicated to particular tasks, and are based on a standard API. This allows third parties to create new filters and make them available, allowing new services to be provided quickly and easily.

French Abstract

La presente invention porte sur les telecommunications en general, et plus specifiquement sur un procede et un systeme flexible et efficace de fourniture de services de telecommunications. Les systemes existants de reseau telephonique publics commutes souffrent de certains problemes tels que complexite du systeme, acces en mode prioritaire et services mis en oeuvre par materiel fige. En consequence, les nouveaux services sont complexes et leur developpement couteux, ce qui fait que les entreprises de services telephoniques offrent uniquement des services a large

diffusion. L'invention offre un systeme ouvert et flexible en decrivant des communications en termes de paquets graphiques qui contiennent des pointeurs designant des blocs de code non compile plutot que des blocs longs de code executable. Selon une realisation preferee, ces graphiques identifient des filtres de logiciel reserves a des taches particulieres et utilisant des normes de programmation de type API. Ceci permet aux trois parties de creer de nouveaux filtres et de les diffuser, ce qui permet de diffuser les nouveaux services rapidement et facilement.

Fulltext Availability:

Detailed Description

Detailed Description

... variant mechanism is a "token bucket" that allows bursts at full speed until the flow has used up a bucket full of tokens, then restricts **flow rate** to the required average as tokens dribble in. These mechanisms directly express queueing behaviour, which is fundamental to networking, so they are the preferred ones...

...Cooperation Treaty, Serial No.

, titled "Method and System for Negotiating Telecommunication Resources". Briefly, a calling party creates a graph including a desired QoS and proposed **pricing**, and transmits it to the service provider for consideration. The service provider may accept the proposal, issue a counter proposal, or abandon the negotiation.

For new services, one cannot assume that there is a single pipe at a **given bandwidth** and quality of service (QoS) involved in a call. For example, a 3-way video-conference call might have one of the branches operating as...

...both of desired service and billing method.

Essentially, the call-manager software hands a "schematic" of the desired call to the RFQ (request for quote) **server**, which looks at the "traffic cops" and similar blocks to determine a price, then sets parameters in "teller" blocks that feed money into key components...

16/5,K/54 (Item 31 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00554735 **Image available**

METHOD AND APPARATUS IMPLEMENTING A MULTIMEDIA DIGITAL NETWORK

PROCEDE ET DISPOSITIF POUR LA REALISATION D'UN RESEAU NUMERIQUE MULTIMEDIA

Patent Applicant/Assignee:

TIVO INC,

Inventor(s):

BARTON James M,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200018108 A2 20000330 (WO 0018108)

Application: WO 99US16113 19990715 (PCT/WO US9916113)

Priority Application: US 98135753 19980818

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU

LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA

UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ

TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI

CM GA GN GW ML MR NE SN TD TG

Main International Patent Class: H04N

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 10591

English Abstract

A method and apparatus for efficiently managing the allocation of

available data capacity on a physically shared digital network among devices connected to that network is disclosed. Also disclosed is a method and apparatus for managing the ongoing timely movement of data on the shared network such that precise long-term data rates are achieved between attached devices with minimal additional buffering. The invention further comprises a method and apparatus which allows the use of any remaining network capacity for non time-critical data movement without the need for centralized access management.

French Abstract

L'invention concerne un procede et un dispositif servant a gerer efficacement l'attribution de la capacite de donnees disponible dans un reseau numerique partage physiquement entre les appareils connectes a ce reseau. L'invention concerne egalement un procede et un dispositif gerant le transfert de donnees opportun permanent dans le reseau partage de facon que des debits a long terme precis soient obtenus entre les appareils relies, et ce avec une mise en memoire tampon additionnelle minimale. L'invention concerne en outre un procede et un dispositif permettant l'utilisation de toute capacite de reseau restante pour des transferts de donnees a duree non critique sans la necessite d'une gestion d'accès centralisee.

Fulltext Availability:

Detailed Description

Detailed Description

... that addresses the weaknesses of prior art in this field (as described above) within any ethernet style network which may have varying maximum bandwidths between **nodes** on the network. It would also be desirable if such methods were extended to a small number of such segments interconnected by one or more routing agents.

SUMMARY OF THE INVENTION

The method and apparatus described herein addresses the problems of **0 bandwidth allocation** on a shared digital network, using a unique, novel, and simple mechanism for scheduling streaming media and on-demand transmissions such that efficient use of the network is achieved, while maintaining stable **data delivery rates**.

5 One embodiment of the invention provides a simple means by which any device can present a sequenced stream of packets to a network for transmission and have those packets sent at precisely specified times. This function is implemented with minimal additional hardware in each network **node**, thereby reducing or eliminating added **cost**.

Another embodiment of the invention allows **nodes** to transmit on-demand packets on the network without disrupting the ongoing flow of streaming data, and without requiring the intervention of any centralized controller...

...a token-passing or slotted reservation scheme.

Another embodiment of the invention provides for maximal efficiency in the transmission of on-demand data by allowing **nodes** to contend for access to the shared network during times when the network is available for on-demand data.

At the same time, any conflict...

16/5,K/59 (Item 36 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00475650 **Image available**

ELECTRICALLY OPTIMIZED HYBRID "LAST MILE" TELECOMMUNICATIONS CABLE SYSTEM
SYSTEME DE CABLE DE TELECOMMUNICATION HYBRIDE ELECTRIQUEMENT OPTIMISE POUR
RACCORDEMENT TERMINAL "DERNIERS METRES"

Patent Applicant/Assignee:

KHAMSIN TECHNOLOGIES LLC,

Inventor(s):

TAYLOR John A,

COTTER Mitchell A,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9907002 A1 19990211

Application: WO 98US15642 19980729 (PCT/WO US9815642)

Priority Application: US 9754076 19970729; US 9884200 19980430; US
9885195 19980512

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD

MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ

VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH

CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW

ML MR NE SN TD TG

Main International Patent Class: H01B-007/34

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 26338

English Abstract

A cable system is provided which can accomodate electrical and optical cabling. The conductors (71, 73, 75, and 79) of the system employ a layer (79) which is impedance-matched to space, decreasing their cross section to electromagnetic interference. The conductors of the system also employ a layer (79) which symmetrizes electromagnetic interference signals, reducing the effect of interference and crosstalk on the signals carried by the conductors. The system also includes a node interface device for connection to a global electrical and fiber network. The node interface device connects to a user interface device through the cable.

French Abstract

L'invention concerne un systeme de cable se pretant au cablage electrique et optique. Les conducteurs (71, 73, 75, 79) du systeme comportent une couche (79) dont l'impedance est adaptee a l'espace, ce qui a pour effet de reduire l'exposition de la section transversale aux interferences electromagnetiques. Lesdits conducteurs comportent en outre une couche (79) qui assure la symetrie des signaux d'interference electromagnetique, reduisant ainsi l'effet des interferences et de la diaphonie sur les signaux achemines par les conducteurs. Enfin, le systeme comprend une interface de noeud pour le raccordement a un reseau global de cablage electrique et optique. L'interface considerree permet le rattachement a une interface utilisateur via le cable.

Fulltext Availability:

Detailed Description

Detailed Description

... of information flowing through

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the world's communication networks. Telecommunication users today utilize these resources for many other forms of information. **Computer** data and video are just examples of the future. Users are requiring that their communication link to the global networks rise to the occasion in terms of bandwidth, that is, digital **data rate** capability. The legacy links as well as the architecture of the 5central office (telephone exchange) and its cable to the user cannot deliver the information capability desired for all this data, video and other inforrrriation.

There is a need for new network architecture that **provides** a broad **bandwidth** path to the user which can fulfill both present and future requirements. For any such new cable system, suitable **bandwidth** should be **provided** for today's end user with an electrical signal interface --

not optical -lo while at little additional **cost** allowing the capability for optical signal transfer for that time wheii both the equipment and the end user's bandwidth utilization needs evolve. For the...increases in data rates. For example, in 1997, the entire volw-neofinflowinalllonglinesoccurredwitharateofsomethingjustund erIxIO"bits per second. It is likely that in just a few years one **billion** users may be cormected by network at which time the global information rate may approach I x I 0 " to I X 1 020 bits per second! Although much of the fiber now in place in the world is dark, **data rate** growth will eventually present challenges. The use of wavelength division multiplexing ("WDM") in the 25 optical carriers employed for fiber, as well as optical amplifiers...

...e., simultaneously sending and receiving.

Many needs, unique to the last mile cable system, significantly affect the feasibility of last mile designs and influence its **cost**, durability and reliability. Present communication systems are 5capable of **providing** only limited **bandwidth** to the user even though their backbones in long distance and most local inter-exchange paths are fiber based systems. Existing fiber paths have generally...

...fiber and of having each of those signals carry IO to 20 Gigabits lo per second.

The optical fiber is presently in place; only the " **terminal** " connection is required to achieve such a result. Presently, some "Common Carriers" have been installing such bandwidth enhancing means on their networks' long haul portions...

...considerable bandwidth capacity latent in those paths; however, little or no feasible 15 technology presently exists to deliver substantial two-way bandwidth at the user **terminal** end of existing communication networks. Further significant is the current status of fiber use: most of the fibers now installed are dark. That is, they...

16/5,K/61 (Item 38 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00465663 **Image available**

TRANSMITTING HIGH BANDWIDTH NETWORK CONTENT ON A LOW BANDWIDTH
COMMUNICATIONS CHANNEL DURING OFF PEAK HOURS
TRANSMISSION EN DEHORS DES HEURES DE POINTE DE DONNEES D'UN RESEAU A
LARGEUR DE BANDE ETENDUE SUR UN CANAL A LARGEUR DE BANDE ETROITE

Patent Applicant/Assignee:

WEBTV NETWORKS INC,

Inventor(s):

PERLMAN Stephen G,

YUNDT William H,

SCHNECK Stuart,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9856128 A1 19981210

Application: WO 98US11070 19980601 (PCT/WO US9811070)

Priority Application: US 97870532 19970606

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD

MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ

VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH

CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML

MR NE SN TD TG

Main International Patent Class: H04J-003/26

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8039

English Abstract

The present invention describes a method for transmitting high bandwidth network content on a low bandwidth communications channel during off peak hours. According to one embodiment of the present invention, criteria is determined for downloading data from the communications channel (200) and the data is downloaded from the communications channel (200) during off peak hours based on the determined criteria. According to another embodiment, a method for coordinated multicasts on a network (200) is described. Download requests are received on a server (210) from a plurality of clients on the network and stored on the server (210) for the coordinated multicast. The coordinated multicast is generated at a predetermined time and then broadcast from the server (210) to the plurality of clients at the predetermined time.

French Abstract

L'invention porte sur un procede de transfert de donnees provenant d'un reseau a largeur de bande etendue, sur un canal a largeur de bande etroite, en dehors des heures de pointe. Dans l'une des variantes de l'invention, on determine un critere de chargement des donnees provenant du canal de communication (200), d'où les donnees sont dechargees hors des heures de pointe et selon le susdit critere. Une autre variante de l'invention porte sur un procede de diffusion selective coordonnee: les demandes de chargement recues par un serveur (210) en provenance de plusieurs clients y (210) sont stockees en vue de leur diffusion selective coordonnee laquelle a lieu a une heure donnee a laquelle s'effectue la transmission par le serveur (210) a plusieurs clients.

Fulltext Availability:

Detailed Description

Detailed Description

... an ISP's user base were to connect to the ISP during these hours, it would have little or no impact on the ISP's **costs** of providing Internet access, so long as the number of users was less than its peak number of users, even though it would drastically increase the average number of on-line hours per month per user.

Following this supposition further, the telephone **costs** to the user for connecting during these off-peak hours would be zero or quite low, assuming the dialed POP was in a given user's local calling area. As described above, in the United States, residential local calls are generally **charged** at a flat-rate per month, regardless of duration. In other countries, local calls during off-peak hours are often cheaper than during peak hours. For example, in Japan, while local calls during peak hours are **charged** by the minute, a flat- **rate service** plan is available between the hours of 11 PM and 7 AM. Like the ISPs, phone companies must **provide** equipment and **bandwidth** to accommodate peak loads.

During off-peak hours, this equipment and bandwidth sits idle, so the company may desire to incent users to utilize the...

...configuration shown in Figure 1 B are improved significantly.

The improvements take advantage of the fact that, as described above, typically in the home, a **client** device is utilized only during certain hours of the day. The presently claimed invention leverages the usage patterns to provide many of the characteristics of high-bandwidth two-way communications by heavily utilizing infrastructure during off-peak times.

I 0

In one embodiment of the present invention, the **client** software allows the user to specify content that the user desires to access. For example, if the user is interested in news, the user might...

00447132 **Image available**

**TWO-WAY COMMUNICATION SYSTEM UTILIZING SMALL C-BAND ANTENNA FOR DOWNLINK
AND L-BAND FOR UPLINK**
**SYSTEME DE TRANSMISSION BIDIRECTIONNEL METTANT EN OEUVRE UNE PETITE ANTENNE
EN BANDE C POUR LA LIAISON DESCENDANTE ET EN BANDE L POUR LA LIAISON
ASCENDANTE**

Patent Applicant/Assignee:

LUSIGNAN Bruce B,
HRONOPOULOS George,
JOHNSON John Walter,

Inventor(s):

LUSIGNAN Bruce B,
HRONOPOULOS George,
JOHNSON John Walter,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9837596 A1 19980827

Application: WO 98US3441 19980223 (PCT/WO US9803441)

Priority Application: US 97804255 19970221

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ
VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH
DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR
NE SN TD TG

Main International Patent Class: H01Q-021/28

Publication Language: English

Fulltext Availability:

Detailed Description
Claims

Fulltext Word Count: 4986

English Abstract

A low data rate L-band transmitter and antenna is combined with a high data rate C-band receiver and antenna link to a C-band transmitter and an L-band receiver on a geosynchronous orbiting satellite. The receive antenna comprises a three parabolic dish design receiving vertical and horizontal polarizations from the satellite. The L-band transmit antenna is a wire Yagi antenna mounted between dishes.

French Abstract

Cette invention se rapporte a un ensemble antenne et emetteur en bande L a faible debit d'informations qui est combine a un ensemble antenne et recepteur en bande C a debit d'informations eleve de maniere a assurer la liaison avec un emetteur en bande C et un recepteur en bande L sur un satellite sur orbite geosynchrone. L'antenne de reception est concue avec trois reflecteurs paraboliques permettant la reception des polarisations verticales et horizontales en provenance du satellite. L'antenne de transmission en bande L est une antenne Yagi filaire montee entre deux reflecteurs.

Fulltext Availability:

Detailed Description

Detailed Description

... data stream is also used to deliver other data to consumers, such as data on the world wide web sites, business documents, archives, video games, **computer** programs, etc.

U.S. Patent Application No. 08/542,493 discloses a low **data rate** return link (user to control hub station) for the above-mentioned antenna by developing a 6 Ghz
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feed using the same...

...but different combinations of amplitude and phase in the three main areas of the antenna. This VSAT system serves as a small C-Band VSAT **terminal** that is competitive with current VSAT's because it is smaller

and can fit on a user's premises more easily and is not subject to rain fade like Ku-band small VSAT **terminals** . This technology provides a medium to high **data rate** link between a user and a central hub. However, some applications do not require a high **data rate** return link, and in such cases it is a waste to **allocate** such **bandwidth** for low **data rate** applications.

Some manufacturers of communications satellites are launching hybrid satellites combining C-band and Ku-band and now L-band in the same satellite. The system.

The present invention is therefore directed to the problem of developing a low **cost** rapid implementation of a two-way data return link for C-band video service applications, without increasing the size of the overall antenna.

SUMMARY OF...

16/5,K/65 (Item 42 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00436046

METHOD FOR MANAGING FLOW BANDWIDTH UTILIZATION AT NETWORK, TRANSPORT AND APPLICATION LAYERS IN STORE AND FORWARD NETWORK

METHODE DE GESTION D'UTILISATION DE LARGEUR DE BANDE DES FLUX AU NIVEAU DE COUCHES DE RESEAU, DE TRANSPORT ET D'APPLICATION DANS UN RESEAU DE TRANSFERT DE DONNEES MEMORISEES

Patent Applicant/Assignee:

PACKETEER INC,

Inventor(s):

PACKER Robert L,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9826510 A2 19980618

Application: WO 97US22550 19971208 (PCT/WO US9722550)

Priority Application: US 9632485 19961209

Designated States: AU CN IL JP KR NZ

Main International Patent Class: H04J-001/16

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 19047

English Abstract

In a packet communication environment, a method is provided for classifying packet network flows (202, 204) for use in determining a policy, or rule of assignment of a service level, and enforcing that policy by direct rate control. The method comprises applying individual instances of traffic objects, i.e., packet network flows (202, 204) to a classification model based on selectable information obtained from a plurality of layers of a multi-layered communication protocol, then mapping the flow to the defined traffic classes (206, 208, 210, 212), which are arbitrarily assignable by an offline manager which creates the classification. It is useful to note that the classification need not be a complete enumeration of the possible traffic.

French Abstract

Dans un environnement de communication de paquets, une methode est utilisee pour classer les flux des paquets dans le reseau en vue d'une utilisation lors de l'etablissement d'une politique ou regle d'affectation d'un niveau de service et pour appliquer cette regle au moyen d'un controle du debit direct. La methode consiste a appliquer a un modele de classification base sur des informations selectionnables derivees d'une variete de couches d'un protocole de communication multicouche des instances individuelles de trafic d'objets, a savoir les flux des paquets dans le reseau. Apres quoi, le flux est mis en

correspondance avec les classes de trafic definies, susceptibles d'etre assignees arbitrairement par un gestionnaire hors ligne qui cree la classification. Il convient de preciser que la classification ne doit pas etre une enumeration complete du trafic possible.

Fulltext Availability:
Detailed Description

Detailed Description

... for both inbound and outbound traffic. TCP Rate Control is a technique well known to persons of ordinary skill in the art which scales reserved **flows** as excess **rate** is available without incurring retransmission

2.3 Isolating Bandwidth Resources for Traffic Classes

Bandwidth resources may be dedicated to certain traffic classes. There are two...traffic class or family of traffic classes. It completely protects the traffic belonging to the respective class or classes, but this protection comes at the **cost** of forsaken opportunities to share unused bandwidth. Soft isolation allows sharing of unused bandwidth, but limits the amount of guaranteed **bandwidth** that can be **allocated** to any particular traffic class at any one time. This provides a basic level of fairness between traffic classes which have corresponding guaranteed service policies...depicts a flowchart 203 showing the process steps in building a classification tree, such as classification tree 201 of Fig. 2A, by adding traffic class **nodes**, such as traffic class **node** 206, in order of specificity of classes. In a step 240, a new tclass **node** is allocated for the traffic class which is to be added to the classification tree. Next, in a step 242, a traffic specification is inserted for the new traffic class **node**, allocated in step 240. Then, in a step 244, the new tclass **node** is inserted into the classification tree. Next, in a step 246, bandwidth resources allocated based upon the traffic class hierarchy is redistributed to reflect the...

16/5,K/67 (Item 44 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00396760 **Image available**

CHARGING SYSTEMS FOR SERVICES IN COMMUNICATIONS SYSTEMES DE TAXATION DE SERVICES DE TELECOMMUNICATIONS

Patent Applicant/Assignee:

BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY,
SMYTH Peter Paul,
MCKEE Paul Francis,
DOYLE Katherine Emma,

Inventor(s):

SMYTH Peter Paul,
MCKEE Paul Francis,
DOYLE Katherine Emma,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9737503 A1 19971009
Application: WO 97GB923 19970401 (PCT/WO GB9700923)
Priority Application: AT 196302237 19960329; GB 9619897 19960924

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN
MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN YU GH
KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB
GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: H04Q-007/22

International Patent Class: H04M-15:00

Publication Language: English

Fulltext Availability:

Detailed Description
Claims

English Abstract

In a charging system for cellular communications, real-time prices for new connections are offered to the customer. The real-time prices take into account both prevailing and historic traffic patterns, together with the probability that the customer will move from their current cell into a neighbouring cell. Cells of the network are monitored in clusters. If a customer is located in one particular cell, the price offered to that customer will take into account the probability of handover to a neighbouring cell during the connection, and may also take into account the probability of incoming traffic from neighbouring cells during the connection. To enable this predictive pricing, the system stores, and may also update, historic data.

French Abstract

Dans un systeme de taxation de telecommunications cellulaires, des prix en temps reel pour de nouvelles communications sont proposes au client. Ces prix en temps reel tiennent compte a la fois des structures de trafic actuelles et passees, ainsi que de la probabilite que le client se deplacera depuis sa cellule normale vers l'interieur d'une cellule avoisinante. Les cellules du reseau sont controlees en grappes. Si un client est situe dans une cellule particuliere, le prix propose a ce client tiendra compte de la probabilite de transfert vers une cellule avoisinante pendant la communication et, eventuellement, de la probabilite de trafic d'arrivee depuis des cellules avoisinantes pendant la communication. Afin de faciliter cette tarification predictive, le systeme memorise et, eventuellement, met a jour les donnees historiques.

Fulltext Availability:

Detailed Description

Detailed Description

... bands. There may alternatively be no upper limit set so as to allow for inflation.

As described above, the charge rate is obviously applicable to **cost** per unit time of single channel calls. However, the network is likely to be able to provide multi-channel connections such as concatenated time slots or multiple access codes. These could be **charged** at a multiple of the single channel rate, which multiple may or may not be an integer. Because the management of connections using multiple channels is likely to incur lower efficiency, it may be reasonable to **charge** a premium for ...may be initiated by the network due to congestion or difficulty of handover, or it may be initiated by the user wanting a change in **provided bandwidth**. It is possible to record the total number of channels used throughout the duration of a call, and **charge** the user accordingly. For user-initiated bandwidth changes, there may be limitations, such as not allowing a bandwidth great enough actually to affect the **charge** rate.

Dynamic **charging** could also be used in a packet-switched network where the user sends a varying **rate** of **information**. Using Asynchronous Transfer Mode (ATM) terminology, the **cost** to the user would be equivalent to the **cost** of the "effective bandwidth". This takes into account average required **data rate** and variability and ensures certain quality of service parameters are satisfied over all calls. In the same way as in multiple channel allocations, the value of the effective bandwidth will relate to some multiple of the **cost** value. In ATM, although it would not be possible to predict the rate at which the user would send information, the **charging** information provided to them, for instance for a single channel, would still provide an indicator of relative cost to the user for that particular cell...

...be using the WorldWide Web from a mobile computer. Most of the data transfer is downlink, that is from the base station to the mobile **computer**. In dynamic charging, it would be possible to charge for the total number of channels used, regardless of whether they are uplink or

downlink. Alternatively...

16/5,K/69 (Item 46 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00385042 **Image available**

USAGE-BASED BILLING SYSTEM FOR FULL MESH MULTIMEDIA SATELLITE NETWORK
SYSTEME DE FACTURATION SE BASANT SUR L'UTILISATION POUR UN RESEAU
SATELLITAIRE MULTIMEDIA TOTALEMENT MAILLE

Patent Applicant/Assignee:

ORION ATLANTIC L P,

Inventor(s):

LIEBOWITZ Burt,

SWEENEY Steven,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9725785 A1 19970717

Application: WO 97US115 19970102 (PCT/WO US9700115)

Priority Application: US 96582750 19960104

Designated States: AL AM AT AT AU AZ BB BG BR BY CA CH CN CZ CZ DE DE DK DK

EE EE ES FI FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG

MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SK TJ TM TR TT UA UG UZ VN

KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB

GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: H04B-007/155

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 14705

English Abstract

A satellite communication system is provided for full mesh connectivity between a number of earth terminals (12) via satellite link. The earth terminals are connected to user access devices (42) to receive and transmit voice, video, and data and are operable to generate bursts to transmit user data via a satellite, and to process data received from the satellite and transmit it to the addressed user access devices. The terminals each comprise a programmable computing device (52) which organizes bursts in at least one of a plurality of slots constituting a time division multiple access frame in accordance with a burst plan. Billing is based on usage and committed information rates. Data and voice can be billed on one invoice.

French Abstract

La presente invention concerne un systeme de communication par satellites assurant, via des liaisons satellite, un maillage total des connexions entre terminaux terrestres (12). Ces terminaux terrestres, qui sont connectes aux peripheriques (42) d'accès utilisateur de facon a emettre et recevoir le vocal, la video et les donnees, peuvent fonctionner de facon a produire des rafales assurant l'emission des donnees via un satellite et a traiter les donnees recues du satellite ainsi qu'a emettre ces donnees aux peripheriques d'accès utilisateur designes par l'adresse. Chacun des terminaux comporte un organe de calcul programmable (52) qui organise, en fonction d'un plan de creneaux, les rafales dans les limites de l'un au moins des differents creneaux constituant une trame a acces multiple par repartition dans le temps. La facturation prend en consideration l'utilisation et les debits binaires consignes. Les donnees et le vocal peuvent figurer sur une seule facture.

Fulltext Availability:

Detailed Description

Detailed Description

USAGE-BASED BILLING SYSTEM FOR FULL MESH
MULTIMEDIA SATELLITE NETWORK

Field of the Invention

The invention relates generally to satellite communication systems, and is particularly directed to earth station **terminals** configured to provide full mesh, multimedia, bi-directional communication with other **terminals** in a network. Further, the invention relates to satellite communication systems capable of **billing** based on usage and committed **information rates**.

Background of the Invention

Recent technological advances have made satellite technology a viable option for inter-office communications.

Satellite communication systems provide several advantages over terrestrial communications systems for networking applications. Terrestrial based communication systems are typically subject to the "last mile" problem, wherein circuits **providing** increased **bandwidth** for terrestrial communication are not compatible with existing, and typically analog, circuits available at most commercial facilities. Satellite communication avoids this problem by allowing...minutes on a PVC, for data based on the number of bytes actually sent over the subscribed information rate, as well as for the basic **fee** is for the subscribed rate. Further, the system 10 provides users with a number of different services including a CIR, an ECIR, an excess information...

...fixed data rate to transmit information via a terminal 12 over the satellite link 16 at all times. The CIR can be allocated to the **terminal** 12 itself, to the port 40 to which the user access device 42 is connected, or to the PVC the user uses to communicate with the **terminal** 12. The user **pays** a CIR service **fee** based on the **data rate**. An EIR **service** can be purchased to obtain additional bandwidth to transmit traffic in excess of the CIR, subject to the availability of bandwidth within the System 10 as determined by the burst plan. Excess traffic is **billed** by the number of excess traffic bytes transmitted, in addition to the CIR service **fee**. The definition of excess traffic can be set as a system parameter, identifying the time frame over which the EIR measurement is made.

- 34

Voice and video can be transmitted over the satellite link 16 via a **terminal** 12. Unlike known frame relay systems, the system 10 accommodates voice within the CIR. The user is **billed** a fixed **price** for the CIR. The system S 10 does not **assign bandwidth** outside of the **terminal** CIR ... typically require 128 to 512 Kbps. In the system 10, video can be provided over the satellite link 16 via a PVC, port 40 or **terminal** 12 with sufficient ECIR to ensure that video quality is preserved. Video channel services can also be provided as a scheduled ECIR service. Unlike terrestrial...customer contact and other information regarding preferred language and currency, customer network configuration information and subscription information. A customer network generally comprises two or more **terminals** 12, and each terminal 12 therein is configured with several user access ports 40 (e.g., voice, video, frame relay, asynchronous/synchronous data and Ethernet...

...by minutes across a port or terminal or PVC, among other services described above.

The rate tables 194 comprise flat rates, usage rates for voice **data** and video services, promotional rates and

customized rate tables according to countries or customer accounts. Flat rates can include, for example, access fees for a terminal or port, installation fees, maintenance fees, administration fees, or other services for which a flat rate is charged. Rates for voice calls are preferably specified in minutes on a bill. Two sets of rates for voice calls are provided based on the quality of calls such

- 37

as calls using 8 or 16 Kbps circuits. The rates also vary, depending on whether voice calls are prime or non-prime time calls. Data services are billed by CIR and EIR. Rate tables for CIR services support multiple data rates between 0 Kbps to T1 rates. The EIR rates are based on the CIR as a base price, and then vary according to the block of kilo-characters (Kchar) transmitted provided bandwidth was available. For example, EIR rates for a 9.2 Kbps CIR differ from that of a T1 CIR for the same amount of access bandwidth used. The access bandwidth is billed based on blocks of kilo-characters. The EIR rates also take into account the time of day (i.e., prime and non-prime hours).

Video services are specified on a bill in terms of minutes and factor in time of day. Customized rate tables can be created by operators to accommodate operating costs in different countries...

...call duration

in minutes, as well as number of EIR bytes sent where applicable. For an Ethernet port, CDRs also contain source NUI identified by terminal and Ethernet port identification numbers, as well as time of day and number of bytes sent.

The billing system 190 uses the customer database 192...

16/5,K/70 (Item 47 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00362864

RATE CONTROLLER

CONTROLEUR DE VITESSE

Patent Applicant/Assignee:

BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY,
ADAMS John Leonard,
SMITH Avril Joy,

Inventor(s):

ADAMS John Leonard,
SMITH Avril Joy,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9703189 A1 19970130

Application: WO 96GB1643 19960709 (PCT/WO GB9601643)

Priority Application: GB 9514206 19950712

Designated States: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB

GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL

PT RO RU SD SE SG SI SK TJ TR TT UA UG US UZ VN KE LS MW SD SZ UG AM AZ

BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: C12N-015/12

International Patent Class: C07K-14:47; A61K-38:17; A61K-06:00; G01N-33:68;
C12Q-01:68

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 6380

English Abstract

A network for ATM signals includes source end systems SES1, SES3 connected by a permanent virtual connection PVC1 through switch SW1...SWN. Dynamic bandwidth controllers DBC1, DBC2 operate as virtual source/virtual destinations. The individual switches, such as switch SW2 have associated rate controllers RC1 which determine the available bandwidth for the signal path PVC1. Dynamic bandwidth controller DBC1 interrogates the rate controller RC1, RC2 using resource management RM signals which cascade from switching node to switching node along the path in a forward direction and then in a backward direction. The DBC's communicate with the SES's using RM signals which may be of a different format to the RM signals which pass from switching node to switching node.

French Abstract

L'invention a pour objet un reseau pour signaux en mode de transmission asynchrone. Ce reseau comprend des systemes d'extremite sources SES1, SES3 connectes par une connexion virtuelle permanente PVC1 par les commutateurs SW1... SWN. Les controleurs de la largeur de bande dynamique DBC1, DBC2 jouent le role de destination virtuelle/source virtuelle. Les commutateurs individuels, tel que le commutateur SW2, sont associes a des controleurs de vitesse RC1 qui determinent la largeur de bande disponible pour la trajectoire de signaux PVC1. Le controleur de largeur de bande dynamique DBC1 interroge le controleur de vitesse RC1, RC2 a l'aide des signaux RM de gestion de ressources qui se deplacent en cascade de noeud de commutation en noeud de commutation le long de la trajectoire, dans une direction vers l'avant et ensuite dans une direction vers l'arriere. Les controleurs de la largeur de bande dynamique communiquent avec les systemes d'extremite sources a l'aide de signaux de gestion de ressources qui peuvent presenter un format different par rapport aux signaux de gestion de ressources passant de noeud de commutation en noeud de commutation.

Fulltext Availability:

Detailed Description

Detailed Description

Rate Controller

Field of the invention

This invention relates to a network for signals of different bandwidth, and a rate controller for use in **allocating bandwidth** to a signal path through the network.

Background

It is known to link multi-user systems over large distances through leased
io telephone lines. For...

...linked over a long

distance to a host computer through a leased line in a telephone system.

The

line passes through a number of switching **nodes** and its bandwidth may be

shared by a number of different users connected to the same host or different

source end systems. The data is typically transmitted between the **work station** and host in a bi-directional manner, in bursts. The transmissions may be supported by asynchronous mode transmission mode (ATM) equipment.

The bandwidth available to a particular transmission is initially determined by the signal source performing a routine in which the **transmitted data rate** is progressively increased in a test routine. The system at the destination sends 2o back to the source a signal when the received signals become corrupted due to the **data rate** becoming too high, and in this way the data transmission

bandwidth is set to the maximum value that the path can handle. Another **bandwidth allocation** technique is disclosed in EP-A-0 603 099.

When a number of signal sources and destinations share the same line, an unfair **allocation** of **bandwidth** can occur in which the shortest path tends to grab the most bandwidth because the acknowledgement signal returned during test routine occurs more quickly over a short path, so that the shorter path can acquire bandwidth more quickly. As a result, long paths tend to operate 30 at a slower **data rate** than short paths. Another disadvantage is that the customer has to lease the telephone lines on a continuous basis, whereas the actual utilisation of the line varies greatly with time. For example, at night, a low utilisation rate may be achieved so that the customer has to **pay** for time when the line is not actually being used.

Recently, proposals have been made to integrate leased lines into a telephone network system so...

16/5,K/73 (Item 50 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00316029 **Image available**

ACCESS NETWORK

RESEAU D'ACCES

Patent Applicant/Assignee:

BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY,
SMITH Philip John,
FAULKNER David Wynford,

Inventor(s):

SMITH Philip John,
FAULKNER David Wynford,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9534182 A1 19951214

Application: WO 95GB1298 19950606 (PCT/WO GB9501298)

Priority Application: AT 294304139 19940608

Designated States: AU CA CN JP KR NZ US AT BE CH DE DK ES FR GB GR IE IT LU
MC NL PT SE

Main International Patent Class: H04Q-011/00

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 3113

English Abstract

A telecommunications access network comprises a plurality of customer terminals (25, 30) and a plurality of network nodes (23, 28). Each network node (23, 28) is connected to a plurality of the customer terminals (25, 30) by respective local access lines (24, 29), whereby each customer terminal is connectible to a switch (11, 12) of a telecommunications core network via one of the network nodes. At least one of the customer terminals (25', 30') is connected to two of the network nodes (23, 28) by respective local access lines (24, 24' or 29, 29').

French Abstract

Un reseau d'accès de telecommunications comprend une pluralite d'installations terminales d'abonnés (25, 20) et une pluralite de noeuds (23, 28). Chaque noeud (23, 28) est raccorde a une pluralite d'installations terminales d'abonnés (25, 30) par des lignes respectives d'accès local (24, 29). Chaque installation terminale d'abonné peut être connectee a un commutateur (11, 12) d'un reseau central de telecommunications par l'intermediaire d'un des noeuds. Au moins une des installations terminales d'abonnés (25', 30') est raccordee a deux des noeuds (23, 28) par des lignes respectives d'accès local (24, 24' ou 29, 29').

Fulltext Availability:

Detailed Description

Detailed Description

... by BT's local loop optical field trial (LLOFT) at Bishop's Stortford.

In summary, the use of splitter-based PON architecture will reduce the **cost** of fibre deployment in the access network. When compared with point-to-point fibre, savings will result from.

0) reducing the number of fibres at the exchange and in the network;
reducing the amount of **terminal** equipment at the exchange;
(iii) sharing the **cost** of equipment amongst a number of customers;
fiv) providing a thin, widespread, low **cost**, fibre infrastructure; and
M providing a high degree of flexibility, and allowing 'just in-time'
equipment and service provision.

Additionally, PON architecture can be tailored...

...By transmitting at other wavelengths, other services, such as broadband access for cable television and high definition television, or business services, such as high bit **rate data**, video telephony or video conferencing, can be **provided**. The huge **bandwidth** potential of fibre promises virtually unlimited capacity for the transparent network. Eventually, it may be possible to transmit hundreds of wavelengths simultaneously, as the development...

File 8: Ei Compendex(R) 1970-2004/Jan W1
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File 35: Dissertation Abs Online 1861-2004/Dec
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File 2: INSPEC 1969-2004/Jan W1
(c) 2004 Institution of Electrical Engineers
File 94: JICST-EPlus 1985-2004/Jan W1
(c) 2004 Japan Science and Tech Corp (JST)
File 6: NTIS 1964-2004/Jan W2
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File 144: Pascal 1973-2004/Jan W1
(c) 2004 INIST/CNRS
File 434: SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info
File 34: SciSearch(R) Cited Ref Sci 1990-2004/Jan W2
(c) 2004 Inst for Sci Info
File 99: Wilson Appl. Sci & Tech Abs 1983-2003/Nov
(c) 2003 The HW Wilson Co.
File 583: Gale Group Globalbase(TM) 1986-2002/Dec 13
(c) 2002 The Gale Group
File 266: FEDRIP 2003/Nov
Comp & dist by NTIS, Intl Copyright All Rights Res
File 95: TEME-Technology & Management 1989-2004/Dec W4
(c) 2004 FIZ TECHNIK
File 438: Library Lit. & Info. Science 1984-2003/Nov
(c) 2003 The HW Wilson Co

Set	Items	Description
S1	9530	BANDWIDTH(3N) (ALLOCAT? OR PROVISION??? OR ASSIGN??? OR ALL-OT? OR APPORTION?)
S2	714398	(RATE OR RATES OR SPEED) (5N) (DATA OR INFORMATION OR STREAM-??? OR CONTENT OR FLOW??? OR SERVICE OR TRANSMIT? OR TRANSMIS- SION OR TRANSFER???? OR TRANSPORT? OR DELIVER? OR COMMUNICAT? OR DISTRIBUT? OR BROADCAST? OR MULTICAST?)
S3	3828684	CHARG??? OR COST? ? OR PRIC??? OR FEE OR FEES OR BILL??? OR PAY??? OR PAYMENT? ?
S4	5168084	CLIENT? ? OR PC? ? OR COMPUTER? ? OR TERMINAL? ? OR WORKST- ATION? ? OR WORK()STATION? ? OR NODE? ? OR SERVER? ?
S5	91	S1 AND S2 AND S3 AND S4
S6	73	RD (unique items)
S7	39	S6 NOT PY=1999:2003
S8	3463	AU=(ALLEN, A? OR ALLEN A?)
S9	0	S1 AND S8

7/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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05086465 E.I. No: EIP98084331270

Title: ATM ABR traffic control with a generic weight-based bandwidth sharing policy: Theory and a simple implementation

Author: Hou, Yiwei Thomas; Tzeng, Henry H.-Y.; Panwar, Shivendra S.; Kumar, Vijay P.

Corporate Source: Polytechnic Univ, Brooklyn, NY, USA

Source: IEICE Transactions on Communications v E81-B n 5 May 1998. p 958-972

Publication Year: 1998

CODEN: ITRCEC ISSN: 0916-8516

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9810W1

Abstract: The classical max-min policy has been suggested by the ATM Forum to support the available bit **rate** (ABR) **service** class. However, there are several drawbacks in adopting the max-min rate allocation policy. In particular, the max-min policy is not able to support the minimum cell rate (MCR) requirement and the peak cell rate (**PCR**) constraint for each ABR connection. Furthermore, the max-min policy does not offer flexible options for network providers wishing to establish a usage-based **pricing** criterion. In this paper, we present a generic weight-based rate allocation policy, which generalizes the classical max-min policy by supporting the MCR/ **PCR** for each connection. Our rate allocation policy offers a flexible usage-based **pricing** strategy to network providers. A centralized algorithm is presented to compute network-wide **bandwidth allocation** to achieve this policy. Furthermore, a simple switch algorithm using ABR flow control protocol is developed with the aim of achieving our **rate** allocation policy in a **distributed** networking environment. The effectiveness of our distributed algorithm in a local area environment is substantiated by simulation results based on the benchmark network configurations suggested by the ATM Forum. (Author abstract) 23 Refs.

Descriptors: Asynchronous transfer mode; Telecommunication traffic; Congestion control (communication); Algorithms; Heuristic methods; Telecommunication services; Frequency **allocation** ; **Bandwidth** ; Network protocols; **Computer** simulation

Identifiers: Peak cell rate (**PCR**) requirements; Minimum cell rate (MCR) requirements

Classification Codes:

716.3 (Radio Systems & Equipment); 716.4 (Television Systems & Equipment); 716.1 (Information & Communication Theory)

716 (Radar, Radio & TV Electronic Equipment); 921 (Applied Mathematics) ; 723 (Computer Software)

71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS); 72 (COMPUTERS & DATA PROCESSING)

7/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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05020384 E.I. No: EIP98054212317

Title: Equilibrium allocation of variable resources for elastic traffics

Author: Low, Steven H.

Corporate Source: Univ of Melbourne, Aust

Conference Title: Proceedings of the 1998 17th Annual IEEE Conference on Computer Communications, INFOCOM. Part 2 (of 3)

Conference Location: San Francisco, CA, USA Conference Date: 19980329-19980402

Sponsor: IEEE

E.I. Conference No.: 48335

Source: Proceedings - IEEE INFOCOM v 2 1998. IEEE, Piscataway, NJ, USA, 98CH36169. p 858-864

Publication Year: 1998

CODEN: PINFEZ ISSN: 0743-166X

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); T
; (Theoretical)

Journal Announcement: 9807W3

Abstract: Consider a set of connections sharing a network **node** under an allocation scheme that provides each connection with a fixed minimum and a random extra amount of **bandwidth** and buffer. **Allocations** and **prices** are adjusted to adapt to resource availability and user demands. We consider two scenarios of user behavior. In the first scenario a connection purchases an allocation to maximize its expected utility in such a way that the resource **cost** of the new allocation, and hence its connection **charge**, remains the same as that for the old allocation. In the second scenario this budget constraint is relaxed and a connection tries to maximize its benefit, expected utility minus the resource **cost**. Equilibrium is achieved when all connections achieve their optimality and demand equals supply for non-free resources. We show that at equilibrium expected return on purchasing variable resources can be higher than that on fixed resources. Thus connections must balance the marginal increase in utility due to higher return on variable resources and the marginal decrease in utility due to their variability. We further show that in equilibrium where such tradeoff is optimized all connections hold strictly positive amounts of variable bandwidth and buffer. (Author abstract) 30 Refs.

Descriptors: *Resource allocation; Telecommunication networks; Telecommunication traffic; Bandwidth; Mathematical models; Communication channels (information theory)

Identifiers: Available bit **rate** **service**; Equilibrium allocation; Buffer allocation

Classification Codes:

716.1 (Information & Communication Theory); 921.6 (Numerical Methods)

716 (Radar, Radio & TV Electronic Equipment); 921 (Applied Mathematics)

71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS)

7/5/4 (Item 4 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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04745151 E.I. No: EIP97073721753

Title: Bandwidth management technique for hierarchical storage in large-scale multimedia servers

Author: Wang, James Z.; Hua, Kien A.

Corporate Source: Univ of Central Florida, Orlando, FL, USA

Conference Title: Proceedings of the 1997 IEEE International Conference on Multimedia Computing and Systems, ICMCS

Conference Location: Ottawa, Ont, Can Conference Date: 19970603-19970606

Sponsor: IEEE

E.I. Conference No.: 46571

Source: International Conference on Multimedia Computing and Systems-Proceedings 1997. IEEE, Los Alamitos, CA, USA. p 261-268

Publication Year: 1997

CODEN: 002114

Language: English

Document Type: CA; (Conference Article) Treatment: G; (General Review)

Journal Announcement: 9708W4

Abstract: Using magnetic disks as a cache for tertiary storage has been shown to be an effective way to address the high storage **costs** of large-scale multimedia **servers**. We investigate a technique for managing the bandwidth of such a hierarchical storage design. In existing schemes, all data items are treated equally; and the same I/O **rate** is used to load **data** from tertiary storage when they are requested. In our approach, different loading **rates** are used for **data** items with different characteristics. For frequently used items, we keep a large percentage of their data in the disk buffer and need to use only a small I/O rate to load the missing portions on demand. On the contrary a larger portion of less frequently used items is kept in the tertiary storage. To minimize their access latencies, larger I/O rates are used to load the missing parts when these items are needed. We formally prove that this approach is better than

using the same loading **rate** for all **data** items. We also show simulation results to quantitatively demonstrate the benefits of our technique. They confirm that our scheme is able to provide higher system throughput while ensuring very short latencies (i.e., several seconds) for essentially all accesses. Such good performance is achieved using surprisingly small disk space (i.e., about 5% or less of the database size). (Author abstract) 18 Refs.

Descriptors: Magnetic disk storage; Buffer storage; Hierarchical systems; Large scale systems; **Computer** networks; **Bandwidth** ; Data transfer;

Storage **allocation** (**computer**); **Computer** simulation

Identifiers: Multimedia **servers** ; Tertiary storage

Classification Codes:

722.1 (Data Storage, Equipment & Techniques); 723.2 (Data Processing);

723.5 (Computer Applications)

722 (Computer Hardware); 723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING)

7/5/5 (Item 5 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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04704094 E.I. No: EIP97053667031

Title: Rate based control schemes for ABR traffic - design principles and performance comparison

Author: Krishnan, Ram

Corporate Source: Motorola Information Systems Group, Mansfield, MA, USA

Conference Title: Proceedings of the 1996 IEEE Global Telecommunications Conference. Part 2 (of 4)

Conference Location: London, UK Conference Date: 19961118-19961122

Sponsor: IEEE

E.I. Conference No.: 46413

Source: Conference Record / IEEE Global Telecommunications Conference v 2 1996. IEEE, Piscataway, NJ, USA, 96CH35942. p 1231-1235

Publication Year: 1996

CODEN: CRIEET

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 9707W3

Abstract: A new ATM **service** category, the Available Bit **Rate service**, has been introduced in the ATM Forum. It dynamically **allocates** available **bandwidth** to users by controlling the flow of user traffic with feedback. The Forum has ratified the **rate**-based **flow** control framework for the support of this new service. In this paper, we provide a recipe for designing rate-based feedback schemes demonstrating the rich variety of available switch mechanisms. Each aspect of the feedback control loop mechanism is explored in detail and several available choices are investigated. Two example switch mechanisms are provided that illustrate the rate-based control design principles. The ability of these mechanism to support the desired objectives of an ABR service is compared using a reference network configuration. Simulation results show that the rate-based framework allows a great degree of architectural flexibility in the design of switch mechanisms. The rate-based framework provides switch vendors sufficient flexibility to choose a mechanism among several available options, based on their performance requirements and **cost** budgets. (Author abstract) 14 Refs.

Descriptors: Asynchronous transfer mode; Telecommunication traffic; Telecommunication networks; Bandwidth; Feedback; **Computer** simulation; Switching systems; Frequency allocation; Congestion control (communication)

Identifiers: Available bit **rate** (ABR) **service**

Classification Codes:

716.1 (Information & Communication Theory); 731.1 (Control Systems);

723.5 (Computer Applications); 716.3 (Radio Systems & Equipment); 716.4

(Television Systems & Equipment)

716 (Radar, Radio & TV Electronic Equipment); 731 (Automatic Control Principles); 723 (Computer Software)

71 (ELECTRONICS & COMMUNICATIONS); 73 (CONTROL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

7/5/12 (Item 12 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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04010133 E.I. No: EIP94122475637

Title: Bandwidth allocation by pricing in ATM networks
Author: Murphy, John; Murphy, Liam
Corporate Source: Dublin City Univ, Dublin, Irel
Conference Title: Proceedings of the IFIP TC6 Second International Conference on Broadband Communications
Conference Location: Paris, Fr **Conference Date:** 19940302-19940304
E.I. Conference No.: 21398
Source: IFIP Transactions C: Communication Systems n C-24 1994. p 333-351
Publication Year: 1994
CODEN: ITCCE5 **ISSN:** 0926-549X
Language: English
Document Type: MC; (Monograph Chapter) **Treatment:** A; (Applications)
Journal Announcement: 9502W1

Abstract: Admission control and **bandwidth allocation** are important issues in telecommunications networks, especially when there are random fluctuating demands for **service** and variations in the **service rates**. In the emerging broadband **communications** environment these services are likely to be offered via an ATM network. In order to make ATM future safe, methods for controlling the network should not be based on the properties of present services. We propose one **bandwidth allocation** method which has this property. Our proposed approach is based on **pricing** bandwidth to reflect network utilization, with users competing for resources according to their individual bandwidth valuations. The **prices** may be components of an actual tariff or they may be used as control signals, as in a private network. Simulation results show the improvement possible with our scheme versus a leaky bucket method in terms of cell loss probability, and confirm that a small queue with **pricing** can be efficient to multiplex heterogeneous sources. (Author abstract) 36 Refs.

Descriptors: Telecommunication networks; Frequency allocation; Telecommunication control; Telecommunication services; **Computer** architecture; User interfaces; Distributed **computer** systems; **Computer** simulation; Packet switching; Data communication systems

Identifiers: Asynchronous transfer mode; **Bandwidth allocation**; Broadband integrated services digital network; Multiplex heterogeneous sources

Classification Codes:

722.3 (Data Communication, Equipment & Techniques); 716.1 (Information & Communication Theory); 723.5 (Computer Applications); 722.4 (Digital Computers & Systems)

722 (Computer Hardware); 716 (Radar, Radio & TV Electronic Equipment); 723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS)

7/5/14 (Item 14 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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03203334 E.I. Monthly No: EI9109109887

Title: Broadband public network and switch architecture.
Author: Wernik, Marek R.; Munter, Ernst A.
Corporate Source: Bell-Northern Res, Ottawa, Ont, Canada
Source: IEEE Communications Magazine v 29 n 1 Jan 1991 p 83-89
Publication Year: 1991
CODEN: ICOMD9 **ISSN:** 0163-6804
Language: English
Document Type: JA; (Journal Article) **Treatment:** A; (Applications)
Journal Announcement: 9109

Abstract: The authors present a view of public network and switch architecture evolution to broadband capabilities, driven by the applications evolutions and built on a synchronous fiber transmission

infrastructure such as SONET (synchronous optical network). The scenario is based on the partitioning of broadband network functions between synchronous fiber transmission systems and cell-based transport. The first stage of evolution incorporates frame-based switching to support increasing data traffic for LAN (local area network) interconnections. Cell-based technology appears first in the form of point-to-point high- **speed data** trunks and then as switched high-speed access. Centralized cell switching will provide interconnect between cell-based trunks and shared access lines. Remote cell multipliers will provide traffic concentration when the number of customers further increases. Since cell transport will first be introduced in the network as an extension of frame **transport** to higher **speed**, interworking between cells and frames will be necessary. Optimization of this function for a large number of simultaneous connections will be an important design requirement. The value of an asynchronous-transfer-mode-only accesses with a segregated network core is judged against the additional **cost** of interworking and exchange terminations, as well as the complexity of **bandwidth allocation** and control. 12 Refs.

Descriptors: OPTICAL COMMUNICATION; **COMPUTER** NETWORKS--Wide Area Networks; DIGITAL COMMUNICATION SYSTEMS; **COMPUTER** AIDED DESIGN; **COMPUTER** AIDED MANUFACTURING; SWITCHING THEORY--Asynchronous Sequential Logic

Identifiers: BROADBAND PUBLIC NETWORK; SWITCH ARCHITECTURE; SONET NETWORK ; BROADBAND ISDN EVOLUTION; MULTISERVICE SWITCHING **NODE** ; ATM SWITCHING FABRIC

Classification Codes:

717 (Electro-Optical Communications); 723 (Computer Software)

71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING)

7/5/18 (Item 1 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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01620232 ORDER NO: AAD98-16158

**EFFICIENT ALGORITHMS AND FRAMEWORK FOR BANDWIDTH ALLOCATION ,
QUALITY-OF-SERVICE PROVISIONING AND LOCATION MANAGEMENT IN MOBILE WIRELESS
COMPUTING**

Author: SEN, SANJOY KUMAR

Degree: PH.D.

Year: 1997

Corporate Source/Institution: UNIVERSITY OF NORTH TEXAS (0158)

Adviser: SAJAL DAS

Source: VOLUME 58/11-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 6068. 163 PAGES

Descriptors: **COMPUTER** SCIENCE

Descriptor Codes: 0984

The fusion of **computers** and communications has promised to herald the age of **information** super-highway over high **speed communication** networks where the ultimate goal is to enable a multitude of users at any place, access information from anywhere and at any time. This, in a nutshell, is the goal envisioned by the Personal Communication Services (**PCS**) and Xerox's ubiquitous computing. In view of the remarkable growth of the mobile communication users in the last few years, the radio frequency spectrum allocated by the FCC (Federal Communications Commission) to this service is still very limited and the usable bandwidth is by far much less than the expected demand, particularly in view of the emergence of the next generation wireless multimedia applications like video-on-demand, WWW browsing, traveler information systems etc. Proper management of available spectrum is necessary not only to accommodate these high bandwidth applications, but also to alleviate problems due to sudden explosion of traffic in so called hot cells.

In this dissertation, we have developed simple load balancing techniques to cope with the problem of tele-traffic overloads in one or more hot cells in the system. The objective is to ease out the high channel demand in hot cells by borrowing channels from suitable cold cells and by proper assignment (or, re-assignment) of the channels among the users. We also investigate possible ways of improving system capacity by rescheduling

bandwidth in case of wireless multimedia traffic. In our proposed scheme, traffic using multiple channels releases one or more channels to increase the carried traffic or throughput in the system. Two orthogonal QoS parameters, called carried traffic and bandwidth degradation, are identified and a **cost** function describing the total revenue earned by the system from a bandwidth degradation and call admission policy, is formulated. A channel sharing scheme is proposed for co-existing real-time and non-real-time traffic and analyzed using a Markov modulated Poisson process (MMPP) based queueing model.

The location management problem in mobile computing deals with the problem of a combined management of location updates and paging in the network, both of which consume scarce network resources like bandwidth, CPU cycles etc. An easily implementable location update scheme is developed which considers per-user mobility pattern on top of the conventional location area based approach and computes an update strategy for each user by minimizing the average location management **cost**. The **cost** optimization problem is elegantly solved using a genetic algorithm.

7/5/19 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01588546 ORDER NO: AAD97-37798
TRAFFIC SHAPING AND BANDWIDTH ALLOCATION ALGORITHMS FOR VBR TRAFFIC (VARIABLE BIT RATE)
Author: KOPRULU, TACETTIN
Degree: PH.D.
Year: 1996
Corporate Source/Institution: SYRACUSE UNIVERSITY (0659)
Source: VOLUME 58/06-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 3225. 170 PAGES
Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL
Descriptor Codes: 0544

The burstiness of variable bit rate (VBR) traffic makes it difficult to efficiently utilize network resources, as well as to provide guaranteed end-to-end network quality of service (QoS) to the traffic sources. Smoothing or shaping the traffic at the entrance of the network reduces the burstiness thus allowing for higher utilization within the network since less network resource is required for the smoothed traffic. On the other hand, quality of service requirements for network **clients** are typically end-to-end requirements, which impose corresponding performance requirements on both the network and the end-systems. In this thesis, traffic shaping algorithms that satisfy a given set of delay and buffer constraints for isochronous VBR traffic are introduced. The novel features include a unique solution for both stored and real-time traffic; the ability to optimize algorithm behavior for a specific network service; and robustness to traffic estimation error. The effect of traffic shaping on end-to-end quality of service is investigated for packet-switching networks with deterministic performance guarantees and it is proved that by smoothing VBR traffic, more connections can be supported for the same QoS when the network is congested.

A new bandwidth renegotiation algorithm is developed by integrating traffic shaping with **bandwidth allocation**. This novel approach allows for tracking the bandwidth requirements of the traffic using a moderate renegotiation rate which results in higher bandwidth efficiency. The features include the provision of universal interoperability by decoupling the source from the network, deterministic delay bounds, and constant-quality video **transmission** with negligible cell-tag **rate**.

Finally, a novel concept called aggregate smoothing is introduced which integrates multiplexing of VBR traffic with traffic shaping. It is demonstrated that the number of rate changes and variation of the combined traffic are significantly reduced allowing for **cost**-effective transport of real-time traffic. This result is particularly important for public networks carrying aggregated traffic since it is shown that aggregate smoothing increases the network utilization.

7/5/21 (Item 4 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01424348 ORDER NO: AADAA-I9523631
RESOURCE MANAGEMENT AND BANDWIDTH ALLOCATION IN ATM NETWORKS
Author: MAHDAVIAN, SEYYED MOHAMMAD R.
Degree: D.SC.
Year: 1994
Corporate Source/Institution: WASHINGTON UNIVERSITY (0252)
Director: JONATHAN S. TURNER
Source: VOLUME 56/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 1615. 181 PAGES
Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL
Descriptor Codes: 0544

Asynchronous Transfer Mode (ATM) is considered a promising technology which can provide a high **speed** integrated network satisfying the **communications** requirements of a variety of applications including conventional telephone, video transmission applications and **computer** communications, all over the same communications network. In ATM networks, information is transmitted in digital format in fixed size blocks called cells. One problem associated with ATM networks is the loss of information due to cell loss which occurs when the network is congested. Excessive transmission delay and delay jitter are other adverse effects of congestion in ATM networks. Congestion control in ATM networks can maintain cell loss and delay within specified limits. Cell loss has different effects on different applications, therefore the cell loss rate does not precisely reflect the Quality of Service (QoS) of a certain application. In this research, a new measure of the degradation caused by cell loss in ATM networks is proposed. The effect of cell loss in multiplexers utilizing different congestion control methods is then evaluated using this measure. A possible **cost** -based congestion control method which can potentially improve the performance of a multiplexer under certain conditions is also investigated and compared with other congestion control methods.

7/5/22 (Item 5 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01403730 ORDER NO: AADAA-I9509408
DEPENDABLE NETWORK PLANNING AND RESOURCE MANAGEMENT FOR BROADBAND MULTIMEDIA COMMUNICATION
Author: SONG, KI-SANG
Degree: PH.D.
Year: 1994
Corporate Source/Institution: UNIVERSITY OF WASHINGTON (0250)
Chairperson: ARUN K. SOMANI
Source: VOLUME 55/11-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 5008. 110 PAGES
Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL
Descriptor Codes: 0544

This dissertation studies issues in network planning and resource management of the high **speed information** super highway for multimedia **communications** nationwide. In the first part of this dissertation, we present a network planning and designing methodology considering new factors of multiclass traffic in integrated services digital networks. Communication quality of services (QoS) metrics such as cell loss rate and end-to-end delay are considered to plan and dimension the network. Also, fault tolerance capabilities are guaranteed by incorporating additional spare capacity for any single link failure. We develop a heuristic algorithm to solve the network design problem to yield good solutions with minimum **costs**. We also investigate the application of stochastic optimization methods to find near optimal solutions. We demonstrate our proposed approaches by comparing network **cost** and performance

requirements. Several network management schemes are investigated for network dependability.

Next, we address the issues in interworking local area networks (LANs) and metropolitan area networks (MANs) through the designed wide area ATM networks. Multiple LANs can be interconnected to a wide area ATM backbone network to provide **terminal -to- terminal** connections through an ATM network. To use network resources efficiently, we develop a dynamic **bandwidth allocation** strategy for short-term and long-term durations. Our approach is based on the connectionless **server** (CLS) which provides the connectionless services for interconnected connectionless services of LANs/MANs. The short-term traffic fluctuations can be absorbed by adjusting allowable bandwidth between IWUs, and potential increase or decrease of resources is controlled by a long-term resource allocation strategy. We evaluate the performance of various schemes using extensive simulations and analytic methods to show the effectiveness of our resource allocation scheme. Our approach shows that we can save bandwidth use by multiplexing IWUs through a CLS. Also, it is shown that network overhead can be decreased compared with separate renegotiation schemes.

7/5/23 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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6258950 INSPEC Abstract Number: B1999-07-6250G-015

Title: Hyperlong medium adaptive multiple access with dynamic control of the traffic and service quality for mobile satellite ATM networks

Author(s): Markhasin, A.B.

Author Affiliation: Siberian State Acad. of Telecommun., Novosibirsk, Russia

Conference Title: 3rd International Conference on Satellite Communications (IEEE Cat. No.98TH8392) Part vol.1 p.125 vol.1

Publisher: Int. Centre for Sci. & Tech. Inf, Moscow, Russia

Publication Date: 1998 Country of Publication: Russia 3 vol. 225+153+139 pp.

ISBN: 5 93184 002 8 Material Identity Number: XX-1998-03220

Conference Title: 3rd International Conference on Satellite Communications

Conference Date: 22-24 Sept. 1998 Conference Location: Moscow, Russia

Language: English Document Type: Conference Paper (PA)

Treatment: General, Review (G)

Abstract: Summary form only given. Promising prospects for the transition to integrated broadband information technologies in the 21st Century i.e. B-ISDN, B-Internet, multimedia services etc. are dependent on the development of ATM. Impressive results concerning the establishment of high- **speed** ATM **transport** lines, platforms and fixed access networks with centralized architectures have already been achieved. However centralized ATM architectures are used mainly in transport and corporate networks as their **cost** is unacceptable for deployment in mass public networks. The key problem on the way to integrated broadband ATM public networks is the implementation of inexpensive distributed ATM systems for access to broadband integrated services. Active elaboration of such 3rd generation wireless (WLAN) and mobile broadband (MBS, WATM) systems with radio coverage of highly urbanized local areas is being conducted within the framework of the European ACTS Program. The universal adaptive method of ATM access to various hyperlong media and efficient methods concerning dynamic control of bandwidth distribution, traffic parameters and service quality which provide an increase in radio coverage up to the size of metropolitan (MAN), wide-area (WAN) and satellite (GM **PCS**) networks are discussed. The architectural basis of universal multifunctional ATM networks for subscriber access to B-ISDN, B-Internet, multimedia services on radio, optical, optical-fiber and satellite channels with flexible and distributed architecture is developed on the basis of the proposed methods.

(0 Refs)

Subfile: B

Descriptors: asynchronous transfer mode; **bandwidth allocation**; broadband networks; metropolitan area networks; mobile satellite communication; multi-access systems; multimedia communication; personal

communication networks; quality of service; subscriber loops;
telecommunication control; telecommunication traffic; wide area networks;
wireless LAN

Identifiers: hyperlong media adaptive multiple access; dynamic traffic control; service quality; mobile satellite ATM networks; integrated broadband information technologies; B-ISDN; B-Internet; multimedia services ; high- **speed** **ATM transport** ; centralized architectures; corporate networks; mass public networks; integrated broadband ATM public networks; distributed ATM system; WLAN; mobile broadband systems; urbanized local areas; European ACTS Program; ATM access; bandwidth distribution; radio coverage; metropolitan networks; MAN; wide-area networks; WAN; satellite networks; subscriber access; optical-fiber channels; satellite channel; hyperlong medium adaptive multiple access

Class Codes: B6250G (Satellite communication systems); B6150E (Multiple access communication); B6250F (Mobile radio systems); B6210R (Multimedia communications); B6220B (Subscriber loops)

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7/5/25 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC
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6121089 INSPEC Abstract Number: B1999-02-6430G-006

Title: Scheduling and bandwidth allocation for the distribution of archived video in VOD systems

Author(s): Krunz, M.; Zhao, W.; Matta, I.

Author Affiliation: Dept. of Electr. & Comput. Eng., Arizona Univ., Tucson, AZ, USA

Journal: Telecommunication Systems - Modeling, Analysis, Design and Management vol.9, no.3-4 p.335-55

Publisher: Baltzer,

Publication Date: 1998 Country of Publication: Netherlands

CODEN: TESYEV ISSN: 1018-4864

SICI: 1018-4864(1998)9:3/4L:335:SBAD;1-2

Material Identity Number: D379-1998-004

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: Providing **cost** -effective video-on-demand (VOD) services necessitates reducing the required bandwidth for **transporting** video over high- **speed** networks. We investigate efficient schemes for transporting archived MPEG-coded video over a VOD distribution network. A video stream is characterized by a time-varying traffic envelope, which provides an upper bound on the bit rate. Using such envelopes, we show that video streams can be scheduled for transmission over the network such that the per-stream **allocated bandwidth** is significantly less than the source peak rate. In a previous work, we investigated stream scheduling and **bandwidth allocation** using global traffic envelopes and homogeneous streams. In this paper, we generalize the scheduling scheme in to include the heterogeneous case. We then investigate the allocation problem under window-based traffic envelopes, which provide tight bounds on the bit rate. Using such envelopes, we introduce three stream-scheduling schemes for multiplexing video connections at a **server**. The performance of these schemes is evaluated under static and dynamic scenarios. Our results indicate a significant reduction in the per-stream **allocated bandwidth** when stream scheduling is used. While this reduction is obtained through statistical multiplexing, the transported streams are guaranteed stringent, deterministic quality of **service** (i.e., zero loss **rate** and small, bounded delay). In contrast to video smoothing, our approach requires virtually no buffer at the set-top box since frames are **delivered** at their playback **rate**. (25 Refs)

Subfile: B

Descriptors: **bandwidth allocation** ; multiplexing; quality of service; scheduling; telecommunication traffic; video on demand; video **servers**

Identifiers: archived video; video **server** ; video-on-demand; VOD services; high-speed networks; MPEG; time-varying traffic envelope; video stream; stream scheduling; window-based traffic envelopes; bit rate; performance; per-stream **allocated bandwidth** ; statistical multiplexing;

deterministic quality of service

Class Codes: B6430G (Video on demand and video servers); B6150C (Communication switching)

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7/5/27 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

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5939526 INSPEC Abstract Number: B9807-6140C-290, C9807-5260B-190

Title: Dynamic bandwidth allocation for stored VBR video in ATM end systems

Author(s): Gumbrich, S.; Emgrunt, H.; Braun, T.

Author Affiliation: IBM Eur. Networking Center, Heidelberg, Germany

Conference Title: High Performance Networking VII. IFIP TC6 Seventh International Conference on High Performance Networks (HPN'97) p.297-317

Editor(s): Tantawy, A.

Publisher: Chapman & Hall, London, UK

Publication Date: 1997 Country of Publication: UK x+351 pp.

ISBN: 0 412 82070 6 Material Identity Number: XX98-00858

Conference Title: High Performance Networking VII. IFIP TC6 Seventh International Conference on High Performance Networks (HPN'97)

Conference Date: 28 April-2 May 1997 Conference Location: White Plains, NY, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T)

Abstract: The paper introduces a scheme for **delivery** of variable bit-rate (VBR) coded video from a video **server** over ATM networks. To solve the problem of long term variations in bandwidth requirements, a dynamic **bandwidth allocation** scheme is proposed. This is based on renegotiation of bandwidth during the duration of the call. An algorithm is presented that determines optimized renegotiation points for a given VBR-coded video by minimizing **cost** functions. Appropriate **cost** functions, and methods for reducing the run-time expense of this optimizing algorithm are outlined. Results are presented for real VBR MPEG video. The results show that dynamic **bandwidth allocation** reduces the **bandwidth** requirements significantly and that the presented method leads to lower **costs** compared to other known renegotiation schemes. (26 Refs)

Subfile: B C

Descriptors: asynchronous transfer mode; data compression; minimisation; network **servers** ; telecommunication traffic; video coding; visual communication

Identifiers: dynamic **bandwidth allocation** ; stored VBR video; ATM end systems; variable bit-rate video; video coding; video **server** ; bandwidth renegotiation; **cost** function minimization; MPEG video

Class Codes: B6140C (Optical information, image and video signal processing); B6150C (Communication switching); B6210 (Telecommunication applications); B6120B (Codes); C5260B (Computer vision and image processing techniques)

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7/5/34 (Item 1 from file: 6)

DIALOG(R)File 6:NTIS

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2132030 NTIS Accession Number: ADA363498/XAB

Core-Stateless Fair Queueing: Achieving Approximately Fair Bandwidth Allocations in High Speed Networks

Stoica, I. ; Shenker, S. ; Zhang, H.

Carnegie-Mellon Univ., Pittsburgh, PA. School of Computer Science.

Corp. Source Codes: 005343049; 423887

Report No.: CMU-CS-98-136

Jun 1998 43p

Languages: English

Journal Announcement: GRAI9920

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Country of Publication: United States

Contract No.: N66001-96-C-8528; E30602-97-2-0287

Router mechanisms designed to achieve fair **bandwidth allocations**, like Fair Queueing, have many desirable properties for congestion control in the Internet. However, such mechanisms usually need to maintain state, manage buffers, and/or perform packet scheduling on a per flow basis, and this complexity may prevent them from being **cost** effectively implemented and widely deployed. In this paper, we propose an architecture that significantly reduces this implementation complexity yet still achieves approximately fair **bandwidth allocations**. We apply this approach to an island of routers, that is, a contiguous region of the network, and we distinguish between edge routers and core routers. Edge routers maintain per **flow** state; they estimate the incoming **rate** of each **flow** and insert a label into each packet header based on this estimate. Core routers maintain no per flow state; they use FIFO packet scheduling augmented by a probabilistic dropping algorithm that uses the packet labels and an estimate of the aggregate traffic at the router. We call the scheme Core Stateless Fair Queueing. We present simulations and analysis on the performance of this approach, and discuss an alternate approach.

Descriptors: **Computer** communications; *Bandwidth; *Internet; Algorithms ; **Computer** gateways; **Data rate** ; Buffer storage; Network architecture
Identifiers: NTISDODXA

Section Headings: 62GE (Computers, Control, and Information Theory--General)

7/5/35 (Item 1 from file: 583)

DIALOG(R)File 583:Gale Group Globalbase(TM)

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04092456

ASCEND LAUNCHES MULTIBAND BANDWIDTH-ON-DEMAND CONTROLLERS

US - ASCEND LAUNCHES MULTIBAND BANDWIDTH-ON-DEMAND CONTROLLERS

Telephony (TLY) 28 January 1991 p41

ISSN: 0040-2656

Ascend Communications has launched Multiband Bandwidth-on-Demand Controllers which add or subtract bandwidth to create point-to-point virtual connections at speeds from 56 kb/s to 4 Mb/s. Imaging, videoconferencing and LAN bridging are all applications which can make use of high- **speed data** services and low-usage **costs** offered by MCI, AT&T and US Sprint using ISDN or switched T-1 primary or basic rate access. **Bandwidth** is **allocated** by users on time of day, based on stored information, **Bandwidth** can also be **allocated** dynamically based on usage. Multiband ranges in **price** from USD1r5k-USD1r8k. A switched Nx56/64 option for T/P models is available for USD1r4k.*

PRODUCT: Data Communications Equipment (3661DC); Local Area Network Equip (3661LA); Teleconferencing (3661TC); Data Communications (4811DC); Data Services (4811DS); Electronic Mail (4811EM); Local Area Networks (4811LA); Packet Switching (4811PS);

EVENT: PRODUCTS, PROCESSES & SERVICES (30);

COUNTRY: United States (1USA); NATO Countries (420); South East Asia

Treaty Organisation (913);

7/5/37 (Item 1 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

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01088123 I97046141352

An economic ATM passive optical network

(Ein wirtschaftliches, passives optisches Nachrichtennetz mit ATM (asynchroner Transfermodus))

Miah, B; Cuthbert, L
Queen Mary & Westfield Coll., London, UK
IEEE Communications Magazine, v35, n3, pp62-68, 1997
Document type: journal article Language: English
Record type: Abstract
ISSN: 0163-6804

ABSTRACT:

ATM network technology simplifies considerably the provision of services by providing the user with a unique interface to a single integrated service network that will handle all the user's needs. However, while it is possible to think of direct fiber connection to large business customers, where the amount of traffic (and hence the revenue) justifies the expense, the provision of broadband access to residential and small business customers has always been considered a challenge. The RACE II project BAF (Broadband Access Facilities) rose to that challenge, developing an ATM broadband access network that allows a relatively large number of users to share a single point of entry to the high-speed network economically. The BAF access network is not only **cost** effective but provides full dynamic **bandwidth allocation** between endpoints. This article presents a description of this network, the key issues that arose from the work, and the innovative ideas that were incorporated in the system. The article concludes with a discussion of some of the results of the field trial that was carried out on the demonstrator.

DESCRIPTORS: COMMUNICATION NETWORKS; COMMUNICATION PROTOCOLS; BROADBAND NETWORKS; B ISDN; **DATA** SIGNALLING **RATE** ; BANDWIDTH--FREQUENCY; OPTICAL FIBRES; RESEARCH PROJECTS; MULTI USER SYSTEM; LIGHT COMMUNICATION; USER INTERFACES; ACCESS PROTOCOLS; ASYNCHRONOUS TRANSFER MODE; OPTICAL FIBER SUBSCRIBER LOOPS; **COMPUTER** INTERFACES

IDENTIFIERS: BUSINESS COMMUNICATION; RESEARCH INITIATIVES; ECONOMIC ATM PASSIVE OPTICAL NETWORK; ATM NETWORK TECHNOLOGY; SERVICES PROVISION; INTEGRATED SERVICE NETWORK; BUSINESS CUSTOMERS; TRAFFIC; REVENUE; SMALL BUSINESS CUSTOMERS; RESIDENTIAL CUSTOMERS; RACE II PROJECT BAF; BROADBAND ACCESS FACILITIES; ATM BROADBAND ACCESS NETWORK; HIGH SPEED NETWORK; DYNAMIC **BANDWIDTH ALLOCATION** ; FIELD TRIAL RESULTS; NETWORK DEMONSTRATOR ; MAC PROTOCOL; SYSTEM PERFORMANCE; asynchroner Uebertragungsmodus; Breitband-ISDN

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Set	Items	Description
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S2	1000543	(RATE OR RATES OR SPEED)(5N)(DATA OR INFORMATION OR STREAM-??? OR CONTENT OR FLOW??? OR SERVICE OR TRANSMIT? OR TRANSMIS- SION OR TRANSFER???? OR TRANSPORT? OR DELIVER? OR COMMUNICAT? OR DISTRIBUT? OR BROADCAST? OR MULTICAST?)
S3	17582313	CHARG??? OR COST? ? OR PRIC??? OR FEE OR FEES OR BILL??? OR PAY??? OR PAYMENT? ?
S4	9946440	CLIENT? ? OR PC? ? OR COMPUTER? ? OR TERMINAL? ? OR WORKST- ATION? ? OR WORK()STATION? ? OR NODE? ? OR SERVER? ?
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S6	97	RD (unique items)
S7	58	S6 NOT PY=1999:2003
S8	385761	(RATE OR RATES)(3N)(DATA OR INFORMATION OR STREAM??? OR FL- OW??? OR SERVICE OR TRANSMIT? OR TRANSMISSION OR TRANSFER???? OR DELIVER?)
S9	364	S1(50N)S8(50N)S3(50N)S4
S10	14777039	CHARG??? OR PRIC??? OR FEE OR FEES OR BILL??? OR PAY??? OR PAYMENT? ?
S11	185	S1(50N)S8(50N)S10(50N)S4
S12	113	RD (unique items)
S13	88	S12 NOT PY=1999:2003
S14	51164	S3(10N)S8
S15	17	S1(50N)S14(50N)S4
S16	78325	S3(20N)S8
S17	50	S1(50N)S16(50N)S4
S18	32	RD (unique items)
S19	28	S18 NOT PY=1999:2003

19/3,K/1 (Item 1 from file: 275)
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01833029 SUPPLIER NUMBER: 17137171 (USE FORMAT 7 OR 9 FOR FULL TEXT)
LAN/SNA traffic control switch for mixed networks. (FPX2000 fast-packet switch from Cray Communications) (Brief Article) (Product Announcement)
Daniel, Nancy
PC User, n260, p16(1)
May 31, 1995
DOCUMENT TYPE: Product Announcement ISSN: 0263-5720 LANGUAGE:
English RECORD TYPE: Fulltext
WORD COUNT: 225 LINE COUNT: 00022

... of multi-protocol WANs.
The FPX2000 allows all LAN and SNA protocols to be integrated in their native format. The product's native protocol support **delivers** good performance **rates** and lowers the **cost** of ownership, says Cray.
Despite the growth of the LAN, Cray says SNA activity accounts for 60 per cent of all networking traffic. 'Unix file **servers** and other LAN-type hosts have had very little impact on mission critical data. Corporates are keeping it on their SNA hosts,' said Grant McFarlane, product marketing manager.
The FPX2000 is designed to prioritise traffic according to its type, destination and origin, and adjusts **bandwidth allocation** to fine-tune the network according to the traffic present.
It also incorporates Preventative Congestion Control, notifying network end points such as IBM front-end...

19/3,K/2 (Item 2 from file: 275)
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01801546 SUPPLIER NUMBER: 17108032 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Managing ATM networks.
Biagi, Susan
STACKS, v2, n11, p8(2)
Nov, 1994
ISSN: 1070-8596 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1361 LINE COUNT: 00115

... are saying."
Another significant ATM management challenge is that of traffic management or congestion control. Vendors generally fall into two camps regarding traffic management, explains **Bill Clark**, product marketing manager for switching products at Cabletron (Rochester, N.H.). One is **rate**-based; a **node** transmits frames at an **assigned bandwidth** rate. If the **node** hogs up the bandwidth, the ATM **server** can tell it to back off its transmission.
The second approach is credit-based. Each **node** is allocated a number of credits, which are exchanged for bandwidth. If the **node** transmits as the **server** requests--slowing the rate of transmission when the line gets clogged--it earns more credits. If a **node** depletes its credit supply, it has exceeded its **bandwidth allocation**. The network will stop receiving the station's cells, and credits are slowly replenished.
Congestion control is very difficult, Ozil remarks, especially on the WAN...

19/3,K/3 (Item 3 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01679898 SUPPLIER NUMBER: 15350526 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Three-ringed Circus Circus; the casino operator gambles and wins on a fiber-based MAN for its three Las Vegas hotels. (Circus Circus Enterprises Inc) (PC Week Netweek) (case study)

Schurr, Amy
PC Week, v11, n17, pN5(3)
May 2, 1994
ISSN: 0740-1604 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1105 LINE COUNT: 00088

... Las Vegas.

The hubs support as many as eight access modules, so the three hotels on the MAN can exchange diverse data traffic, including 5250 **terminal** emulation, RS-232C protocol, AS/400, 16M-bps Token-Ring, and T-1.

Despite the multiple protocols involved, the IS staff had no trouble configuring the eight-slot hubs, because the hubs automatically **allocate** the amount of **bandwidth** required for each module.

As all of his IS staffers need to understand the technology and be able to operate the hubs, Ginney said such...

...don't have the luxury of hiring a teleprocessing manager for communication offerings," he said.

Productivity payoff

Besides the comparatively low \$1,800 monthly maintenance **costs**, the fiber-based system delivers many productivity gains.

The fiber MAN's fast data throughput offers quick **data - transfer rates**; Ginney said he can transfer massive loads of redundant data without suffering backlogs.

The new system also offers faster response time to file and data...

19/3,K/4 (Item 4 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

01469983 SUPPLIER NUMBER: 11895903 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Satellite communication: a status report.
Budwey, James N.
Telecommunications, v25, n12, p19(5)
Dec, 1991
ISSN: 0278-4831 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 4176 LINE COUNT: 00349

... the largest segment of the business, according to Paul Gaske, VP marketing and business development, at Hughes Network Systems.

At Hughes, the linking of remote **computers** and LANs is also a major growth area for satellite communication. Circuits capable of transmitting 400 kbps in one direction and 100 kbps in the reverse direction allow for high-capacity downloading from the central file **server** and moderate capacity for inquiry and uploading from the remote site. This system is currently available at highly competitive **prices**.

Transmission **bandwidth** can be **allocated** on demand (within a few milliseconds) to transport **information** bit **rates** in increments of 9.6 kbps, 64 kbps, and 512 kbps. This **bandwidth** can be **allocated** on demand at least up to E1 (2.048 Mbps) rates, as required, according to Jim Stratigos, VP marketing at AT&T Tridom.

The VSAT...are projected to reach \$400 million by the end of 1993. In a 1990 International Data Corporation (IDC) report, the total market for new VSAT **terminals** is projected to grow from \$319 million in 1991 to \$743 million in 1994. Yankee Group also estimates the 1990 market shares for equipment sales...

19/3,K/5 (Item 5 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

01451435 SUPPLIER NUMBER: 11152649 (USE FORMAT 7 OR 9 FOR FULL TEXT)
ISDN finally gets real. (Integrated Services Digital Network)
Gantz, John
Networking Management, v9, n9, p92(2)
August, 1991

... of the major PBX vendors now have partnering programs with software developers to help them spur call center and other applications development. And the major **computer** vendors are extending the interoperability of their products with PBXs and are introducing products, like IBM's CallPath, for managing data bases and information transfer...

...Bausch & Lomb, Kodak, American Express, and MacDonalds are experimenting with ISDN for strategic reasons, others are discovering the practical benefits of ISDN. These include:

- * lowering **costs** through the elimination of trunk lines and T1 circuits thanks to dynamic **bandwidth allocation** ;
- * faster **data rates** over the ISDN D channel than are available in the dial-up mode;
- * improved access to corporate information from outlying sites;
- * LAN-to-LAN applications...

19/3,K/6 (Item 6 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

01379415 SUPPLIER NUMBER: 09559465 (USE FORMAT 7 OR 9 FOR FULL TEXT)
New factors drive resurgence of X.25 packet switching. (buyers guide)
Axner, David H.
Networking Management, v8, n10, p76(7)
Oct, 1990
DOCUMENT TYPE: buyers guide ISSN: 1052-049X LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2523 LINE COUNT: 00209

... and image transmission, and the transmission of large volumes of information from distributed data bases. These new concepts will easily accommodate traffic bursts via dynamic **bandwidth allocation** . Their high performance is dependent on multiple 32-bit processor architecture and extremely low **transmission error rates** on the order of one error in one **billion** bits or better, promised by digital facilities and fiber optics.

The fast-packet concept was initially introduced by StrataCom Corp., which organized its packets (cells) to conform to standard T1 formats. The StrataCom IPX **node** currently organizes a cell into 24 bytes. (For more information on fast packet and frame relay, see "Fast packet solves bandwidth-hungry data needs," by...

19/3,K/7 (Item 7 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

01365281 SUPPLIER NUMBER: 09266867 (USE FORMAT 7 OR 9 FOR FULL TEXT)
New ISDN hardware offers alternative to leased lines. (Codex 8860 terminal adapter and two Ascend Communications gateway servers) (product announcement)
Kramer, Matt
PC Week, v7, n30, p47(1)
July 30, 1990
DOCUMENT TYPE: product announcement ISSN: 0740-1604 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 498 LINE COUNT: 00039

... access remotely by dialing into the 8860 over one of the B channels.

Ascend Communications, based in San Francisco, is developing two types of gateway **servers** to connect mainframes and LANs into an ISDN service using either BRI or Primary **Rate** Interface (PRI) **transmitting** at 1.54M bps. The company will formally announce the names and **pricing** of the two units when the products are released in November, officials said.

The Ascend gateways will function as dynamic **bandwidth allocation** managers for either the host or the LAN to which they are attached.

"We would pack together B channels, so as we start something like...

19/3,K/8 (Item 8 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

01250602 SUPPLIER NUMBER: 06799555 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Nice to install in-house ISDN for voice-data. (integrated services digital network) (Connectivity Section)

Fahey, Michael

PC Week, v5, n25, pC15(2)

June 21, 1988

ISSN: 0740-1604 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 759 LINE COUNT: 00059

... the number of the calling party, will enable Nice Corp. to route calls to specific operators.

This ability is important in the case of Nice **clients** such as Giorgio, the upscale Beverly Hills fragrance and beauty-products company whose customers demand personalized service, according to Mr. Clements.

He is, however, taking a wait-and-see attitude on the long-distance carriers' **pricing** for their primary-rate interface:

AT&T plans to **charge** 3 cents for every number **delivered** using its primary-**rate** interface in addition of a \$400 monthly **charge** for primary-rate access. Most industry observers said they feel this is an attractive price.

Mr. Clements, however, said his business closely watches every cent

...

...be cost-justified at his firm.

One feature that will prove effective, Mr. Clements predicted, is Call-by-Call Service Selection, which allows users to **assign bandwidth** on a variable basis--for example, by switching from an inbound 800 service, such as Megacom 800, to an outbound bulk-calling service.

19/3,K/9 (Item 9 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

01037398 SUPPLIER NUMBER: 00509910

New ROLM Switch has 4.4 Billion BPS Capacity.

Telephony, v205, n22, p13

Nov. 21, 1983

ISSN: 0040-2656 LANGUAGE: ENGLISH

RECORD TYPE: ABSTRACT

ABSTRACT: The ROLM Corporation announced its largest communications system, the CBX II. CBX II will carry voice and **data** at a **rate** of 4.4 **billion** bits-second. The new system utilizes four major technological developments: ROLMbus, dynamically **allocatable bandwidth**, inter-**node** link and ROLMlink.

19/3,K/10 (Item 1 from file: 621)

DIALOG(R)File 621:Gale Group New Prod.Annou.(R)

(c) 2004 The Gale Group. All rts. reserv.

01327891 Supplier Number: 46001261 (USE FORMAT 7 FOR FULLTEXT)

ECI TELECOM'S TELEMATICS UNIT LAUNCHES NEW MULTI-SERVICE WAN SWITCH

PR Newswire, p1211NEM012

Dec 11, 1995

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 903

... and cost effective migration path from packet to frame relay services."

High performance, 24 Mbps bandwidth

With a system throughput of over 24 Mbps, the **PCP 800** access switch provides bus speeds comparable to switches that deliver the higher capacity of a backbone environment. Additionally, the **PCP 800** provides the needed capacity for a multi-service frame relay access switch. The system can support 84 high speed ports, of which 24 can operate at up to E1 speeds, with switching rates of up to 2000 switched frames per second, independent of frame size.

The **PCP 800** performance is further enhanced by a statistical I/O architecture that automatically **allocates bandwidth** according to actual traffic demand. The **PCP 800** system resources are dynamically applied to user traffic, as opposed to pre-allocated. This is ideal for bursty traffic applications such as frame relay (LAN interconnect) where, if one user bursts to a higher **information rate** demand, the system automatically allocates I/O capacity. This level of switch provisioning flexibility dramatically reduces overall network **cost** of operation.

High reliability reduces the cost of operation

As individual switches increase in both capacity and the number of users they support, network and switch resiliency become critical issues for mission critical network services. The **PCP 800's** frame relay rate adaptation and sizable frame buffering enable service providers to alleviate the growing congestion and network resiliency concerns characteristic of initially...

19/3,K/11 (Item 1 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

03267568 Supplier Number: 46706323 (USE FORMAT 7 FOR FULLTEXT)

TV/COM: TV/COM's QAM receiver delivers 256 QAM throughput capability

M2 Presswire, pN/A

Sept 13, 1996

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 550

... 2 digital video, audio and data transmission over a broad cable bandwidth. TV/COM's QAM cable receiver supports variable bandwidth which provides flexibility in **bandwidth allocation** and throughput. The receiver accommodates signals transmitted via 16, 32, 64, 128 or 256 QAM. The occupied bandwidth of the channel can be varied in real time from 2 to 10 Mhz with a maximum **data rate** of 64Mbps. This **data rate** capacity and bandwidth variability allows 30 percent **cost** savings for the service operator by providing greater program capacity and flexibility. Volume production is scheduled for October 1996.

* Information about HE and TV/COM...

...Co. Ltd., (HEI) was founded in 1983. Today, it is one of the largest semiconductor memory manufacturers in the world.

Combining many business divisions including **computer** systems, telecommunications products, systems ICs and MPEG chips, Hyundai Electronics (HE) is a subsidiary of HEI whose parent company is Hyundai, Seoul, Korea.

Hyundai is...

19/3,K/12 (Item 2 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)

(c) 2004 The Gale Group. All rts. reserv.

02929491 Supplier Number: 45959396 (USE FORMAT 7 FOR FULLTEXT)

TELEMATICS INTERNATIONAL LTD: Telematics launches new multi-service WAN switch

M2 Presswire, pN/A

Nov 27, 1995

Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 906

... an efficient and cost effective migration path from packet to frame relay services."

High performance, 24Mbps bandwidth With a system throughput of over 24Mbps, the **PCP 800** approaches the bus speeds of many other vendors' frame relay backbone switches, and provides the needed capacity for a multi-service frame relay access...

...which 24 can operate at up to E1 speeds, with switching rates of up to 2000 switched frames per second, independent of frame size.

The **PCP 800** performance is further enhanced by a statistical I/O architecture that automatically **allocates bandwidth** according to actual traffic demand. The **PCP 800** system resources are dynamically applied to user traffic, as opposed to pre-allocated. This is ideal for bursty traffic applications such as frame relay LAN interconnect) where, if one user bursts to a higher **information rate** demand, the system automatically allocates I/O capacity. This level of switch provisioning flexibility dramatically reduces overall network **cost** of operation.

High reliability reduces the cost of operation As individual switches increase in both capacity and the number of users they support, network and switch resiliency become critical issues for mission critical network services. The **PCP 800's** frame relay rate adaption and sizeable frame buffering enable service providers to alleviate the growing congestion and network resiliency concerns characteristic of initially...

19/3,K/13 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.

05321925 Supplier Number: 48100771 (USE FORMAT 7 FOR FULLTEXT)
Handle More Traffic With Current Bandwidth -- Packeteer product prioritizes frame relay, other traffic
Janah, Monua
InformationWeek, p119
Nov 3, 1997

Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Tabloid; General Trade
Word Count: 384

... way-and that was contention for bandwidth on a T1 line. There were lots of people surfing the Internet, interrupting the good service the Web **server** was supposed to receive."

Still, for long periods during the day, there was plenty of bandwidth to spare on the company's T1 line, Smith says. So investing in yet another T1 line just for the periods of congestion didn't seem like a **cost**-effective solution. PacketShaper was a better answer, he says.

PacketShaper 1000 uses **Transmission Control Protocol rate** control to **allocate bandwidth** to both inbound and outbound traffic. It offers various options to categorize traffic-by a certain URL on the Web, or a certain protocol, IP...

19/3,K/14 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.

05095565 Supplier Number: 47481542 (USE FORMAT 7 FOR FULLTEXT)
ADSL giving the 56K a run for its money
Mayer, John H.
Electronic Buyers' News, pe10
June 23, 1997
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 1437

... need T1 or E1 rates in both directions, which ADSL can't support.

"The problem is that by the time the information hops through multiple **servers** and gets to the customers, they don't get 1.5 Mbits/s anymore," said Taufique Ahmed, senior product manager for DSL products at Level One Communications Inc., Sacramento, Calif. "It bogs down to somewhere between 50 and 700 Kbits/s.

"Until someone physically upgrades all the **servers** on the Internet - an unlikely prospect - you're always going to have a bottleneck, and you're always going to be wasting bandwidth. So what the customer needs is a solution that dynamically **allocates bandwidth** to do other things," Ahmed said.

Both Level One and Brooktree Corp. have developed ICs that support a subset of HDSL called multi-rate DSL (MDSL). Designed to tackle the liabilities of ADSL in these environments, the devices offer **data rates** up to 1,168 Kbits/s in both directions, at about the same **cost** as ISDN.

Level One offers a two-chip set called the Data Pump. The chip set splits functions between the SK70720 MDSL DSP and the...

19/3,K/15 (Item 3 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.

04845371 Supplier Number: 47128138 (USE FORMAT 7 FOR FULLTEXT)

Architecting the local loop

America's Network, pS17

Feb 15, 1997

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 1326

... UltraPhone system. However, the spread spectrum technology is being optimized as principally an urban and suburban WLL system accommodating greater subscriber density for a given **bandwidth allocation** than other systems. B-CDMA technology also offers improved service reliability at reduced operating **costs**, and greater capacity for advanced services such as Basic **Rate** ISDN and video **transmission**.

InterDigital's experience in emergency deployments, such as in Kuwait (see sidebar) and in air and weather disasters, are just one part of the company...

...the wireless local loop - whether fixed or mobile, or some other amalgamation - will become an integral part of the domestic communications scene.

'As cellular and **PCS** look for new markets beyond mobile, you'll see wireless local loops spring up around the U.S.' predicts Rob Norcross, a principal with Mercer...

19/3,K/16 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

10549549 SUPPLIER NUMBER: 53095614 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Shapely Bandwidth. (Brief Article) (Product Announcement)

InformationWeek, 212(1)

Oct 19, 1998

DOCUMENT TYPE: Brief Article Product Announcement ISSN: 8750-6874

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 104 LINE COUNT: 00013

TEXT:

A new version of software for Packeteer's PacketShaper bandwidth-management device lets Cisco Systems networks prioritize business application traffic. It **allocates bandwidth** for applications that Cisco products alone cannot differentiate, such as Citrix, Corba, Distributed Component Object Model, Java, Microsoft Windows **Terminal Server**, or

thin- **client** applications. It assigns **transmission rates** to control these applications' performance and to protect them from "bursty" IP traffic. The software comes with the PacketShaper 1000, **priced** at \$3,450; the PacketShaper 2000, priced at \$7,250; and the PacketShaper 4000, priced at \$14,500.

19/3,K/17 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

09855773 SUPPLIER NUMBER: 19966405 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Xedia Announces Entry Level Access Point 10 With Industry Leading Price/Performance
PR Newswire, p1110NEM023
Nov 10, 1997
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 1406 LINE COUNT: 00124

... network infrastructures."
Network operators or service providers can place Access Point 10 at regional sites to complement existing router platforms with explicit control over the **allocation** of IP access **bandwidth** across enterprise departments and applications. Network service providers can now **cost** effectively deploy Access Point 10 at smaller, regional service centers to provide bandwidth **rate** commitments with improved **service** levels to locally managed Web host sites, Internet **server** farms, or downstream service subscribers.

Access Point 10 joins Xedia's previously announced Access Point 100 and Access Point 45. Access Point 100 currently provides a full 100 Mbps-capable solution for managing bandwidth across larger scale **server** farm environments. The Access Point 45, with it's integrated wide area network interfaces, robust IP routing services, and CBQ traffic management support provides the...

19/3,K/18 (Item 3 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

08955006 SUPPLIER NUMBER: 18675986 (USE FORMAT 7 OR 9 FOR FULL TEXT)
TV/COM's QAM receiver delivers 256 QAM throughput capability at the same cost as 64 QAM implementation; patented TV/COM technology combines two silicon chips into single chip ASIC allowing for a 30 percent increase in data transmission in DVB compliant cable set-top box.
Business Wire, p9120206
Sep 12, 1996
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 540 LINE COUNT: 00049

... 2 digital video, audio and data transmission over a broad cable bandwidth. TV/COM's QAM cable receiver supports variable bandwidth which provides flexibility in **bandwidth allocation** and throughput.

The receiver accommodates signals transmitted via 16, 32, 64, 128 or 256 QAM. The occupied bandwidth of the channel can be varied in real time from 2 to 10 Mhz with a maximum **data rate** of 64Mbps.

This **data rate** capacity and bandwidth variability allows 30 percent **cost** savings for the service operator by providing greater program capacity and flexibility. Volume production is scheduled for October 1996.

Information about HE and TV/COM...
...Co. Ltd., (HEI) was founded in 1983. Today, it is one of the largest semiconductor memory manufactures in the world.

Combining many business divisions including **computer** systems, telecommunications products, systems ICs and MPEG chips, Hyundai Electronics (HE) is a subsidiary of HEI whose parent company is Hyundai, Seoul, Korea.

Hyundai is...

19/3,K/19 (Item 4 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

07656809 SUPPLIER NUMBER: 16206173 (USE FORMAT 7 OR 9 FOR FULL TEXT)
**PCSI announces enhancements to its Access Plus 100 Integrated Access
Multiplexer.**
Business Wire, p01231096
Jan 23, 1995
LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 699 LINE COUNT: 00059

... a Qantel system through the same 56 kbps line."
The flexibility to select transport mode for each data port individually allows network managers to optimize **bandwidth allocation** for each type of traffic according to delay, throughput and **cost** parameters. The Access Plus 100 supports **data rates** from 1200 bps to T1/E1 speeds. Synchronous and asynchronous data connections for all types of data devices, including bridges, routers, controllers, **terminals**, and FEPs, are supported.

PCSI will demonstrate its enhanced Access Plus 100 integrated access multiplexer at this month's Communications Networks '95 exhibition in Washington...

19/3,K/20 (Item 5 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

07208386 SUPPLIER NUMBER: 14943500 (USE FORMAT 7 OR 9 FOR FULL TEXT)
N.E.T. INTRODUCES NEW FRAMEEXPRESS SOFTWARE RELEASE FOR FRAME RELAY FAMILY
PR Newswire, p0328SJ006
March 28, 1994
LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 724 LINE COUNT: 00063

... it allows a frame relay connection to be made across a separate frame relay network -- called "PVC tunneling." This enables users to send traffic from **node** to **node** in the most cost-effective manner -- over either a private, direct link or a public link. Either way, the PVC route determination and network management is handled identically. The benefit is that a frame relay network can now combine many circuits over a large-bandwidth public PVC to reduce **costs** without losing control of the management capabilities.

The new software release also provides PVC priority queuing. While a Committed **Information Rate** feature ensures that network **bandwidth** is only **allocated** to active applications, PVC priority queuing further allows packets to be prioritized for quicker handling. As an offset to ensure smooth traffic flow, an algorithm...

19/3,K/21 (Item 6 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

06690245 SUPPLIER NUMBER: 14332569 (USE FORMAT 7 OR 9 FOR FULL TEXT)
**Chips, bytes and birds. (use of digital and computer technology in
satellite communications)**
Dewar, Janet; Cooley, Martha
Satellite Communications, v17, n8, p26(3)
August, 1993
ISSN: 0147-7439 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 1739 LINE COUNT: 00148

... and complex engineering models across the world by international satellite will steadily improve.

• Customized Services

The ability to combine digital signal processing with less-expensive **computer** software and hardware is propelling the satellite communications industry toward more customized services. The crucial ingredient in customized services is variable **rate transmission**, which equates to control of **bandwidth allocation**, a feature with positive **cost** implications for users.

Recently, for example, Comsat World Systems introduced a new Bandwidth on Demand (BOD) service for private-line service providers and multinational corporations...

19/3,K/22 (Item 1 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

(c) 2004 ProQuest Info&Learning. All rts. reserv.

01663720 03-14710

Automation systems

Ajamie, John

Broadcast Engineering v40n7 PP: 150-154 Jun 1998

ISSN: 0007-1994 JRNL CODE: BRG

WORD COUNT: 1519

...TEXT: the MAPP Media Browse that allows frame-accurate desktop video browsing. The MAPP WAN manager is a hierarchical storage management system that can control multiple **servers**, cart machines and an archive storage device. Countrywide distribution of spots is also a feature touted in this software. The MAPP Vyvx Bridge is offering an automated Vyvx Catch **Server** in which outside materials arrive and are then bridged to a broadcast **server**.

The TransMission Manager from Columbine JDS is a complete system that manages all areas of digital TV transmission. From playback to the **allocation** of **bandwidth**, TransMission Manager can assure the quality of the material, then plan it for playback and finally manage the transmission for all your channels of programming...

... along with master control automation system (MCAS), gives you full traffic and master-control integration of cart machines, VTRs, switchers, still-stores, character generators, video **servers** and routers.

Digital Manager, which works together with MCAS, acts as the control center for multichannel digital TV transmissions. This system provides **bandwidth allocation** tools, including control of encoders, multiplexers, conditional access, subscription info, parental guidance bit **rate**, closed-captioning **data** and teletext languages.

The ADC-50 from Louth is a low- **cost** but high-end solution for automation playback. It can be used with cart machines to cache to videodisk, or it can be used solely with a file **server** for a tapeless environment. The ADC-50 can broadcast up to six channels and is easily upgraded to the next level, the ADC100. The ADC...

19/3,K/23 (Item 2 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

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01530374 01-81362

Handle more traffic with current bandwidth

Janah, Monua

Informationweek n655 PP: 119-120 Nov 3, 1997

ISSN: 8750-6874 JRNL CODE: IWK

WORD COUNT: 384

...TEXT: other wayand that was contention for bandwidth on a T1 line. There were lots of people surfing the Internet, interrupting the good service the Web **server** was supposed to receive."

Still, for long periods during the day, there was plenty of bandwidth to spare on the company's T1 line, Smith says. So investing in yet another T1 line just for the periods of congestion didn't seem like a **cost**-effective solution. PacketShaper was a better answer, he says.

PacketShaper 1000 uses **Transmission** Control Protocol **rate** control to **allocate** **bandwidth** to both inbound and outbound traffic. It offers various options to categorize traffic-by a certain URL on the Web, or a certain protocol, IP...

19/3,K/24 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2004 ProQuest Info&Learning. All rts. reserv.

11441114 00-92101

The best new technologies

Gifford, James M

Satellite Communications v20n9 PP: 48-52 Sep 1996

ISSN: 0147-7439 JRNL CODE: SAC

WORD COUNT: 2812

...TEXT: carry enough information to refresh each frame in the video sequence with acceptable clarity. Very tranquil scenes, on the other hand, might lend themselves to **data** **rates** far lower than 1 Mbps.

The concept of statistical multiplexing is fairly simple: rob Peter to **pay** Paul. Tweak the **bandwidth** **allocated** to each of a group of channels continuously, handing out or borrowing bits as needed for each video signal.

When many video channels of varied...

... remaining channels might contain more challenging scenes, so they would require more data bits per second to reproduce the video frames accurately. Statistical multiplexing uses **computer** horsepower to analyze signals on the fly and allocate bits accordingly.

This works brilliantly most of the time. It runs into difficulty when images on...

19/3,K/25 (Item 1 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext
(c) 2004 CMP Media, LLC. All rts. reserv.

01175816 CMP ACCESSION NUMBER: IWK19981019S0087

Shapely Bandwidth (What's Hot)

INFORMATIONWEEK, 1998, n 705, PG212

PUBLICATION DATE: 981019

JOURNAL CODE: IWK LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: Behind The News

WORD COUNT: 97

TEXT:

A new version of software for Packeteer's PacketShaper bandwidth-management device lets Cisco Systems networks prioritize business application traffic. It **allocates** **bandwidth** for applications that Cisco products alone cannot differentiate, such as Citrix, Corba, Distributed Component Object Model, Java, Microsoft Windows **Terminal** **Server**, or thin-**client** applications. It assigns **transmission** **rates** to control these applications' performance and to protect them from "bursty" IP traffic. The software comes with the PacketShaper 1000, **priced** at \$3,450; the PacketShaper 2000, priced at \$7,250; and the PacketShaper 4000, priced at \$14,500.

• 19/3,K/26 (Item 2 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext
(c) 2004 CMP Media, LLC. All rts. reserv.

01144013 CMP ACCESSION NUMBER: IWK19971103S0059
Handle More Traffic With Current Bandwidth - Packeteer product
prioritizes frame relay, other traffic
Monua Janah
INFORMATIONWEEK, 1997, n 655, PG119
PUBLICATION DATE: 971103
JOURNAL CODE: IWK LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: Hardware
WORD COUNT: 385

... way-and that was contention for bandwidth on a T1 line. There were lots of people surfing the Internet , interrupting the good service the Web **server** was supposed to receive."

Still, for long periods during the day, there was plenty of bandwidth to spare on the company's T1 line, Smith says. So investing in yet another T1 line just for the periods of congestion didn't seem like a **cost** -effective solution. PacketShaper was a better answer , he says.

PacketShaper 1000 uses **Transmission** Control Protocol **rate** control to **allocate** **bandwidth** to both inbound and outbound traffic. It offers various options to categorize traffic-by a certain URL on the Web, or a certain protocol, IP...

19/3,K/27 (Item 3 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext
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01129940 CMP ACCESSION NUMBER: EBN19970623S0003
ADSL giving the 56K a run for its money
John H. Mayer
ELECTRONIC BUYER'S NEWS, 1997, n 1063, PGE10
PUBLICATION DATE: 970623
JOURNAL CODE: EBN LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: Extra: Communications Components
WORD COUNT: 1405

... need T1 or E1 rates in both directions, which ADSL can't support. "The problem is that by the time the information hops through multiple **servers** and gets to the customers, they don't get 1.5 Mbits/ s anymore," said Taufique Ahmed, senior product manager for DSL products at Level One Communications Inc., Sacramento, Calif. "It bogs down to somewhere between 50 and 700 Kbits/s.

"Until someone physically upgrades all the **servers** on the Internet - an unlikely prospect - you're always going to have a bottleneck, and you're always going to be wasting bandwidth. So what the customer needs is a solution that dynamically **allocates** **bandwidth** to do other things," Ahmed said.

Both Level One and Brooktree Corp. have developed ICs that support a subset of HDSL called multi-rate DSL (MDSL). Designed to tackle the liabilities of ADSL in these environments, the devices offer **data** **rates** up to 1,168 Kbits/s in both directions, at about the same **cost** as ISDN.

Level One offers a two-chip set called the Data Pump. The chip set splits functions between the SK70720 MDSL DSP and the...

19/3,K/28 (Item 1 from file: 813)
DIALOG(R)File 813:PR Newswire
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1115307 NEM011
MCK Communications Announces MCK Anywhere Office 893 For Total Remote

" Office Connectivity

DATE: June 23, 1997

08:59 EDT

WORD COUNT: 938

... is easy and simple to install, operate and upgrade. The remote user can program the set-up options using the telephone display and keypad or PC , and is prompted through the easy-to-follow commands on the LCD display on the telephone deskset. In addition to initial set-up, remote users...

... by supporting Call-On-Demand. Its spoofing capability ensures that the ISDN B channel is only used when calls actually occur. The use of dynamic bandwidth allocation garners further cost efficiency by giving priority to voice signals, so that, when voice signal drops out, data is transmitted at a higher rate . This takes further advantage of whatever bandwidth is available, maximizing telco resources and minimizing service charges .